

YOUR ULTIMATE SIX-PACK PLAN p.46

OCTOBER 2015

MIDDLE EAST

Men's Health

**BUILD A
BEACH
BODY!**

**MEGA
MUSCLE
MASS IN
MINUTES**

**22
MINUTE
BELLY FAT
BLAST**
GET RIPPED TO
THE CORE
p.44

**STOP
WORKING,
START
LIVING** p.72

**3 MOVES,
MASSIVE
ARMS!**

PRO TIPS FOR
SLEEVE-BUSTING
BICEPS

Qatar: QAR 20
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ISSN 2313-3945
9 772313 394008
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POWER
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TESTOSTERONE?** p.78





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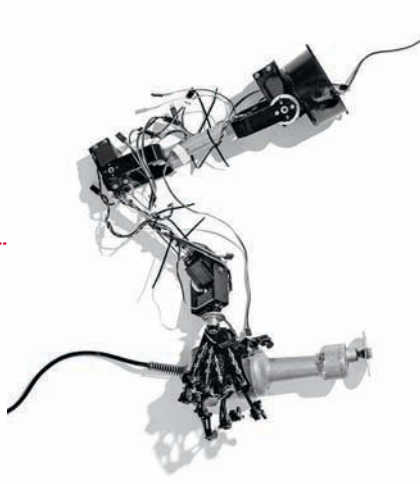
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Robert Sharpe, photographed
by Efraim Evidor

ON THE COVER

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Cut the fat and forge a six-pack with these two simple plans.

P50 BIGGER BICEPS
Three moves, big results in just minutes.

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W. Christopher Winter, M.D., is medical director of the Martha Jefferson Hospital Sleep Medicine Center in Charlottesville, Virginia.



Take Your Meditation

"Mindfulness, including guided meditation, is rejuvenating, refreshing, and reenergizing. **I use a free app, Headspace, to guide me through my 20-minute morning meditation.** If I miss it, I'll try to squeeze in a session later in the day. I've also started practicing the 'three good thoughts' exercise before I fall asleep at night. It's simple—you just focus on three good things that happened that day. Doing this will fill you with positive energy."

Mark Welton, M.D., is chief of colorectal surgery at Stanford Cancer Center.



Recharge with Solar Energy

"For a boost when you're flagging, **go outside for a quick walk and focus on breathing deeply.** When I do this, it's amazing how quickly that burst of sunshine and fresh air gives me the energy I need to accomplish whatever I'm working on. I also drink coffee and black tea for the combo hit of caffeine and antioxidants, but I cut myself off by the afternoon so it won't interfere with my sleep."

Travis Stork, M.D., is an emergency medicine physician and host of the syndicated TV show *The Doctors*.



Fill Up on Premium Fuel

"A good breakfast is key. **I always include protein and stay away from refined carbs.** They break down into sugar quickly and stimulate a burst of insulin in your body, which helps process the sugar but then can leave you with low glucose levels. That makes you feel fatigued and leads to the 10am craving for doughnuts. My go-tos are scrambled eggs, yogurt with fruit and nuts, and granola with kefir and nuts."

Benjamin Kligler, M.D., is vice chair and research director of Mount Sinai Beth Israel's department of integrative medicine.



Use Power to Make Power

"My day often starts at 5 a.m., and after a long stint in the OR I'm sometimes totally beat. My solution is to exercise. **Alternate between four different workouts to keep things fresh:** weights, treadmill, rower, and body-weight circuits (jumping jacks, squats, mountain climbers, and pushups). Exercise revs your cardiovascular system and stimulates various brain chemicals that make you feel happier and more relaxed. I find myself energized the rest of the afternoon and into the evening."

John Eleftheriades, M.D., is director of the Aortic Institute at Yale University and Yale–New Haven Hospital.

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EDITOR'S LETTER

Runners, please take a knee because this month's column isn't directed at you. It's for readers who hate the sport; those who despise every single step, and the many who think they simply can't run. Granted, there are circumstances that rule out running for a lot of people, but there is also a vast number of people who avoid it because they're simply intimidated by it. I know because running has always been something I've tried to avoid.

I've never really understood the attraction of thumping along a footpath or around a track, clocking up miles for hours on end, only to return home a sweaty, blistered mess of stinky shoes and sodden clothing. I admire those who are able to put themselves through the physical and mental anguish of a marathon, or a punishing 1600 metre race, but I've always favoured things that aren't so sadistic.

Much of this can be loaded squared on the shoulders of my high school gym teacher and his insistence on making the annual cross country run a compulsory event for all students. Those with sympathetic, note-writing parents were lucky: the rest of us were forced out of the school grounds and told to follow a 5 km loop that tracked along a main highway, a trail worn by sheep along a ditch overgrown with tall grass that whipped your legs and made you itch, and a thistle covered hill that was both uber-slippery and so steep that running was reduced to a belly crawl.

Training for the event was a miserable time, and though the days of corporal punishment were drawing to a close, the threat of a couple of cane-stripes across the backside were still a very real and present danger. It was enough to keep your feet moving and your mind focused on getting back to school in a respectable time. Some kids had total meltdowns. Some were so traumatised that they simply ran home and refused to go back to school. The rest of us just put up with it and did what had to be done. Running was the lesser of the two evils, and acceptance of the fact meant one less trip to the headmaster's office and disciplinary note home. Running, it's fair to say, was far from fun.

Even if the joy of the sport has escaped you, rediscovering it can be fun. You simply need the right coach and the right advice. For me, that came in the shape of Norrie Williamson, former front-row forward for Scotland's national rugby team, and now an ultra-marathon runner and elite athlete coach. An effervescent character, Williamson is the sort of guy who can look at your shoes and tell you how you sit at your computer, which side you favour when you sleep, and how you prefer your steak - though that last bit may have been a guess.

His most useful piece of advice has been to slow down. Slowing my pace has certainly helped my endurance, and though I have a long way to go before I can contemplate a decent attempt at a 10 km time, or a half marathon, the fact that I'm now able to run distances without stopping has been a revelation. My old gym teacher's hardline tactics may have forced us out the gate, but Williamson's advice has made me want to do it without someone wielding a massive stick.

I'm still not sure about that Fun Run term though. It still sounds like an oxymoron.

Carlin Gerbich

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LIFE'S QUESTIONS, ANSWERED

Are raw diets really worth it?

AARON, DUBAI

Here's the premise behind putting away your frying pan: When you eat food raw, you consume key nutrients and enzymes that would be destroyed during cooking. The flaw in this logic is that the enzymes won't survive the stomach acids released during digestion anyway, explains Katherine Tallmadge, R.D., a D.C.-based nutritionist. And while heat can decrease the nutritional content of some produce, it can also boost your absorption of antioxidants and vitamins from tomatoes, carrots, and broccoli. Plus, some foods have certain things, like *E. coli* and salmonella, we *want* cooking to kill. That's why going raw usually means cutting out meat, fish, and dairy. The one upside to the diet? Adherents eliminate processed foods and often lose weight as a result. Of course, you can just adopt that strategy—and still have your steak and eat it too.

I sometimes get painful blisters during long runs. What's the best way to speed up the healing process?

ERIC, ABU DHABI

DIY surgery, stat! Draining a blister by puncturing it with a needle is still the best and fastest way to help it heal, says Robert Eckles, D.P.M., M.P.H., dean of clinical studies at the New York College of Podiatric Medicine. But before you prick yourself, make sure it's not a blood blister. If you see red, or if you have diabetes (which can delay wound healing), let your doctor han-

dle the operation. All clear? Douse a cotton ball with 70 percent isopropyl alcohol and swab the irritated area. Then use more isopropyl alcohol to disinfect a sewing needle. (Don't put needle point to flame. Carbon particles could cause further infection or even tattoo you.) Now puncture the bubble and gently drain the blister into the cotton ball, leaving the excess skin there to protect the underlying tissue, says Dr. Eckles. During the day, cover the wound with a nonstick bandage; at night, remove the bandage so the area can dry out. To avoid blisters

on your next run, reduce moisture and friction by wearing two pairs of thin running socks made of synthetic fibres—cotton isn't as effective at wicking away moisture.

I know inflammation is bad. But is the anti-inflammatory diet any good?

IAN, AL AIN

It's a trend now, so it goes by many names—the Mediterranean diet and the Blue Zones diet are just two. The idea is to steer clear of foods containing added sugars and trans fats, two



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The Reality How badly do you want to shake up your current workout routine? Because standing on one of these vibrating contraptions will feel like trying to exercise during a mini-earthquake: You hang on to the handrail as the base oscillates, forcing your body to work harder to maintain its balance, explains *MH* training advisor David Jack. "The platform's power may seem subtle at first, but it moves at 20 to 50 oscillations per second. That means your muscles are firing at a much faster rate," he says. "Normally they fire only about twice a second."

The benefits? In a *Journal of Strength and Conditioning Research* study, people who stood on a platform vibrating at 50 hertz performed 22 percent more reps of an upper-body exercise, and completed the reps at a faster rate, than people who didn't use the vibration feature. But be warned: Beginners are lucky if they can simply stand there for 30 seconds without tiring. Only after you've built some basic stabilizing strength will you be ready to adjust the settings and move on to squats, planks, and pushups. And hands off if you've had a recent concussion or back or knee injury, says Jack. The oscillations can cause vertigo and may overexert strained muscles.

achy, free radicals can raise your risk of heart disease, osteoporosis, diabetes, and dementia. But just as important is what the diet says you *should* eat: Foods that contain protective phytonutrients and disease-fighting antioxidants. Think fresh fruits and vegetables, extra-virgin olive oil, nuts, and even grape juice. In a 2015 *Nutrition Journal* study, men with high blood concentrations of Hs-CRP, an inflammation marker, saw a 27 percent reduction after following this approach for four weeks.

When buying almonds, should I choose the gassed or steamed kind?

DAVE, DUBAI

We'll take either of those options over salmonella poisoning, thank you. All almonds sold in the UAE must be pasteurised, and gassing or steaming them are two ways to do that, says Linda Harris, Ph.D., an investigator at the Western Centre for Food Safety at UC Davis. With gassing, batches of almonds are dosed with propylene oxide (PPO) to kill off bacteria and then flushed with fresh air before packaging. EPA testing shows that the PPO has vanished by the time you bolt down those nuts. Still wary? Go for the steam-cleaned variety, which are pasteurised without chemicals and meet official food preparation standards.

My son was vaccinated against measles, but one of his friends wasn't. Could my kid still get sick?

KYLE, DUBAI

Cancel the playdate. The vaccine is 99 percent effective in people who've had two doses, but that still leaves your son with a 1 percent chance of catching measles, says Matthew Kronman, M.D., M.S.C.E., a pediatric infectious disease specialist at Seattle Children's Hospital. There were 117 measles cases linked to the Disneyland outbreak earlier this year, and from what we currently know, at least 12 percent of the people who contracted the infection had been vaccinated. Sure, your own kid getting sick

might be a long shot, but why risk it? Now for our obligatory reminder that yes, the shots are safe: A 2015 study published in *JAMA* found no connection between the MMR vaccine and the onset of autism, even among those kids considered at high risk for developing the disorder.

The air at my fitness centre's pool reeks of chlorine. Is it dangerous?

JON, DOHA

Don't hate on chlorine. The chemical is extremely effective at killing off *E. coli* and cholera, says Manolis Kogevinas, Ph.D., codirector of the Centre for Research in Environmental Epidemiology in Barcelona. What you should actually worry about is trichloramine, a respiratory irritant that forms when chlorine reacts with skin cells, hair, sweat, and (thank you, toddlers) urine. Too much exposure to air laden with trichloramine may increase your risk of asthma, warns Kogevinas. In fact, a 2015 study published in the *Journal of Allergy and Clinical Immunology* found significantly higher asthma rates among swimmers than water polo players or divers. This may be because the lap guys spend so much time breathing along the surface of the water, says Susan Richardson, Ph.D., a professor of chemistry at the University of South Carolina. The good news is that you can easily sniff out the trouble. If the air at your local pool

I read that some NFL players take ballet barre classes. Seriously?

MARK, DUBAI

Yep. Except they rock tights instead of tutus. Barre training is modeled after moves that ballet dancers perform in their studios. You hold on to a horizontal bar and do stretches and technical ballet squats to strengthen your quads, glutes, hamstrings, ankle ligaments, and hip flexors. The goal is injury prevention, explains Daniel Cooper, M.D., head physician for the Dallas Cowboys. His players use the barre to incorporate flexibility into their strength and conditioning training and to reduce the risk of soft-tissue injury, Dr. Cooper says. Not ready to add pirouettes to your sets? Try this squat at the gym, suggests Jennifer McCamish, owner of a Texas barre studio who trains NFL players. Position a barbell at waist height in its holding rack. Grip the bar with both hands and stand on your tiptoes. Bend your knees slightly and lean back so you look like you're water-skiing. Then bob up and down about an inch as many times as you can. Do this twice a week or more to improve your range of motion.



TOBY LEIGH (illustration); courtesy Performance Health Systems (platform); iStock (dog)

is overpowering, ask the manager to do a better job of ventilating the place.

I often sweat in my sleep. Is that unhealthy, or just gross?

KHALID, DUBAI

It's probably nothing to lose sleep over. In most cases, cortisol is the culprit behind nighttime sweats, says *Men's Health* sleep advisor W. Christopher Winter, M.D. Your body's levels of this stress hormone tend to drop naturally about an hour before bedtime, and that's accompanied by a dip in body temperature that causes you to pull the blankets (or your honey) closer. Cortisol rises again around dawn, along with your body temperature—except that now you have extra layers of fabric on top of you. No wonder you wake up wetter than you were when you went to sleep. Men, especially muscular men, also tend to break a sweat more easily than women do because their metabolism is higher, Dr. Winter says. Your options: Use bedding made with moisture-wicking materials, such as DermaTherapy Sport sheets (\$200 and up, dermatherapysport.com). Or sleep on a ChiliGel cooling pad, which draws heat away from your body (\$50, chilitechnology.com). Now if you try everything and find that you're still sweating, it might be time to see your doctor.

Excessive sweating could be a side effect of antidepressants, or a sign of hyperthyroidism or sleep apnea.

What should I look for when buying a chemical-free sunblock?

TONY, DUBAI

First, zero in on zinc oxide. This and titanium dioxide are the minerals most commonly used in chemical-free sunscreens, but zinc has the edge in protection, says David Leffell, M.D., a professor of dermatology at Yale School of Medicine. These physical sunscreens work by reflecting UVA and UVB rays away from your body, whereas chemical barriers like oxybenzone, octocrylene, and octinoxate absorb radiation and dissipate it as heat. Which approach is better? Physical sunscreens may be more effective because they don't degrade in sunlight like some chemical kinds can. But we're guessing the main reason you want to avoid oxys and octos is because you've heard they can be toxic. The worry isn't warranted, says Dr. Leffell, who explains that there's no research demonstrating any clear risk in humans. Same goes for the tiny nanoparticles that are used in mineral sunscreens to avoid leaving a white sheen on your skin—even the Environmental Working Group says they're safe. Got all that? Now go get your sunscreen: zinc oxide and SPF 30 or higher.

YOUR BODY, DISSECTED

Mark Wolff, D.D.S., Ph.D.

Why do I sometimes bite my tongue when I eat?

GEORGE, ABU DHABI

Actually, here's a better question: Why don't you tenderise your tongue every time you chow down? Your pons is the main player here: This area of your brain acts as autopilot for many basic from-the-neck-up functions, including chewing, swallowing, and tongue preservation. Whenever you begin chewing, your pons sends a message to the hypoglossal nerve to keep your tongue out from between your teeth. And the vast majority of the time, the coordination is perfect.

Still, every once in a while, the command for your licker to lay low doesn't make it through. This typically happens because some unexpected mealtime stimulus—the sudden urge to say something, or a surprising taste or texture—drowns out the low-level signal from your pons. There isn't much you can do to avoid the occasional tongue sandwich, though you can ease the ache: Suck on an ice cube to numb the pain and reduce swelling.

"Regardless of formulation or brand, what's most important is that you reapply," says Dr. Leffell. Smear it on every two hours or after each swim.

I tend to slouch when I stand. What can I do to improve my posture?

ANDREW, MUSCAT

Keep your chin up. Really. Every time you catch yourself slouching, imagine a taut string protruding from the top of your head; then picture pulling the string back into vertical alignment with your body, says Kenneth Hansraj, M.D., chief of spine surgery at New York Spine Surgery & Rehabilitation Medicine. A lot of men slouch because of weak pecs and abs, two muscle groups that help keep your spine straight, Dr. Hansraj says. To add muscle to your middle, do 25 pushups and a one-minute plank daily. And before bed, do some low-load, long-duration stretching, suggests Roy Film, P.T., D.P.T., O.C.S., a Maryland-based physical therapist. Lie on the floor and place a rolled-up towel under the most rounded part of your mid-back. Then raise your arms as if you're performing an overhead press. Hold this for about 2 minutes and then lower your arms; repeat for a total of 15 to 20 minutes. Film says this will target tight ligaments and fascia along your spine that may be restricting your ability to stand at attention.

My wife says it's unhealthy to let my dog lick my face. Is she right?

IAN, RAS AL KHAIMAH

Let's see: Dog licks your face, and you kiss your wife. Do you think maybe she doesn't want sloppy seconds? But once-removed pooch smooches aside, you should be grossed out too: Canines carry hundreds of different types of bacteria in their mouths, some of which can cause disease in humans, says Jason Stull, V.M.D., M.P.V.M., Ph.D., an assistant professor of veterinary medicine at Ohio State University. Granted, the key word here is "can," since most guys' immune systems are strong enough to fight off these bugs, says Dr. Stull. For people with weaker immune systems, however—including children, pregnant women, and the elderly—the slobbering can be more serious. Worst case, they could contract the bug *Capnocytophaga*, which is found in most healthy dogs and may cause blood and brain infections. You need to enforce a new policy: "No tongue allowed." If you're still getting face baths, find a behavioral specialist—for the dog!—at ccpdt.org.



OCTOBER
2015

PLANNER

Diary notes for the coming season

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Dubai International Triathlon

(November 14)

The season opener is a half-Iron distance triathlon featuring a 1.9km swim followed by 90km cycle and a 21.1km run. The race is backed by the Dubai Sports Council, and organisers say they've made significant revisions this year to make it even better than 2014.

Venue: To be confirmed **Start:** 6.30am

Book these now

Three events to start training for.

Wadi Bih run

(February 5 and 6, 2016, Ras Al Khaimah)

The 24th Wadi Bih race will be held over two days: the Solo 72, Solo 50, Solo 30 and Teams 50 categories will happen on Friday 5th February. The Teams 72 relay will happen on Saturday 6th February. The Teams 72 relay has changed this year; each team of 5 runners must include at least 2 female runners.

More: premieronline.com



Dubai Spartan Race

(November 6, Dubai)

The second Spartan race will again take place at the Jebel Ali Racecourse and cover both sprint and super distances. It's all on sand, so tailor your running programme accordingly, sharpen up your CrossFit skills and settle in for a fun race.

Web: spartanrace.ae



Wadi Adventure Race 10

(October 31, Al Ain)

Prepare for WAR, the tenth adventure race in the wildly successful series. The race will be run over a five kilometre loop with 25 obstacles. Chose your challenge of either one, two or three loops and get training now. There's not long to go.

Web: premieronline.com

Venue: Al Ain, UAE



#MHchallenge

OCTOBER 2015



1 2 3 4 5

THE COOLER WEATHER DELIVERS A DOSE OF ADRENALINE. USE IT WILDLY.

NAIL THESE ASSIGNMENTS, TWEET YOUR RESULTS, AND MAKE THIS COOL SEASON EVEN COOLER.

Give in to the temptation of fall's #1 fruit.

What snack is round, crunchy, and absurdly healthy? Nope, not Thin Mints. Our pick: apples. This is the season to score 'em, either from the tree (a fun date for, like, five minutes) or at the store. Eat an apple a day, peel included (we read that somewhere), and let the antioxidants and fiber do their work.



Start a revolution in your garage. (But first, do this.)

Speaking of apples, the film *Steve Jobs* opens October 9, with Danny Boyle directing a script by Aaron Sorkin, and Michael Fassbender as Jobs. Maybe it'll inspire you to invent a device that changes the world. Or at least to tackle this Jobsian job: Clean your garage. Give yourself some space to create.



Do your autumn leaf peeping like a real athlete.

Few fall pursuits beat a bike ride on a crisp day for pumping out feel-good endorphins. On the roads, slow down when appreciating the colors—the view from the ditch sucks. If you hit wet leaves, maintain your balance by just staying in the saddle and continuing to pedal. And don't turn!



Stage your own obstacle race, or join one.

The season of adventure races kicks off this month. You can create your own crazy circuit of running, stair climbing, and obstacle clearing. It's perfect weather to hit the urban jungle or dunes and your quads won't like you for it. Check out premieronline.com for a list of events.



Find a spot to soak in the 2015 Rugby World Cup.

Japan's upset win over South Africa was just the start. The tournament runs until the end of the month, so there's plenty of potential for upset left. Again, New Zealand's All Blacks are hot contenders—but the World Cup has a habit of displacing those fancied by the masses.





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with Physique TV

Watch every Thursday on
What's Up at 7 PM KSA &
Shoufi Mafi at 10 PM KSA

Knowledge

TAKE A HIKE, TEMPTATION

Want to kill a craving? Run it over. **Moving your feet can help you resist the lure of sugary foods,** an Austrian study suggests. When stressed-out people hopped on a treadmill for 15 minutes, their desire for sweet, high-calorie snacks fell by 23 percent, while those who stayed put saw no change. Stress-busting exercise may reduce your subconscious need for that short-lived sugar boost, says study author Martin Kopp, Ph.D. A brisk walk around the office could also do the trick.

CRAVING
CRUSHER

Knowledge / Weight loss

Slow Down to Slim Down

You don't need heavy exertion to cut your gut: **Low-intensity exercise can deflate your spare tyre just as effectively as high-intensity exercise can**, suggests new research published in *Annals of Internal Medicine*. After six months of treadmill training, the study participants had the same success—1¾ inches less belly—whether they burned 600 calories the harder way (in 40 minutes) or the easier way (in 60 minutes). “When it comes to abdominal obesity, intensity makes no difference,” says study author Robert Ross, Ph.D. The “easy” group walked or jogged at 50 percent of their VO₂ max five days a week.

PUDGE
CRAWL



LOSING STRATEGY

EAT FOUR MEALS A DAY

Pack a second light lunch for work and eat it before you head home for dinner.

Why It Works A light meal—like cheese and fruit—can help you cut calories at dinner. Researchers in Spain found that people who ate *merienda*, a small meal between lunch and dinner, were 36 percent less likely to have abdominal obesity than those who didn't partake of the extra repast.

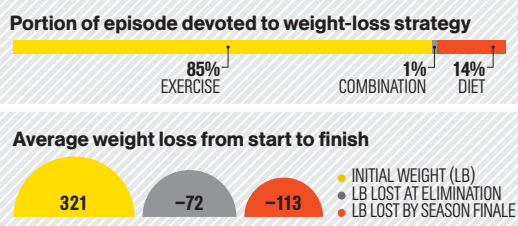


RED LOOKS GOOD ON YOU

Here's a winning color combo: **Eating red and purple produce may help you shed pounds**, say scientists in Iran. Men who piled their plates with foods like watermelon, red onion, red grapes, and tomatoes put on less weight and had smaller waists than those who ate more green, yellow, orange, and white produce. The variety of nutrients found in red and purple foods—lycopene, potassium, and carotenoids—may be key to keeping the pounds off for good, the researchers say.

The Loser Letdown

Could you drop 35 percent of your body weight in five months? The 2010–2012 *Biggest Loser* contestants did. Yet research from the University of Wisconsin at Milwaukee found that the TV show was impractical, focusing mostly on exercise and too little on diet. Worse, people often regained all their weight after the show ended.



13

NUMBER OF POUNDS MEN LOST WHEN THEIR DOCTOR TOLD THEM THEY HAD TO LOSE WEIGHT

Source: *Economics & Human Biology*

01
WINGING
IT02
STRESS
RELIEF03
ROW YOUR
BLOAT AWAY

K

Knowledge / Cardio

Run Like the Wing

Attackers net the glory in soccer, but they don't do the most work, a Norwegian study reveals. Researchers tracked how far and fast pros move and found that **wing midfielders cover the most ground, jogging, running, and sprinting 7.4 miles per game.** David Tenney, a Seattle Sounders FC trainer, says this mix is good for your cardio workouts too. Try his plan: On day one, jog for 40 minutes. On day two, run fast 3 minutes and rest 3 minutes; repeat 5 times. On day three, alternate sprinting and resting for 15 seconds each; do this 8 times. Rest 3 minutes and repeat 3 times.

What's Their MPG (Miles per Game)?

	Central Defender	Fullback	Central Mid	Wing Mid	Attacker
WALK/JOG	5.1	5.1	5.5	5.4	5.1
RUN	0.9	1.7	1.5	1.8	1.3
SPRINT	0.1	0.2	0.1	0.2	0.1
Total	6.1	7.0	7.1	7.4	6.5

Source: *Journal of Strength and Conditioning Research*

Play the whole field—like Ronaldo.

30

MINUTES OF EXERCISE, SIX DAYS A WEEK, THAT CAN CUT YOUR RISK OF EARLY DEATH BY 40 PERCENT

Source: *British Journal of Sports Medicine*



WHEN STRESS GETS PHYSICAL

Chill out or break down: **Life stress raises your risk of sports injury**, a University of Missouri study reveals. College football players were twice as likely to sustain an injury when they were under academic pressure. "Your body can take only so much stress, whether it's from work, exercise, or anything else," says study author Bryan Mann, Ph.D. His advice: Spend 10 minutes a day focusing on your breath and a single positive thought.

BURN NOTICE

ROW AWAY YOUR GUT

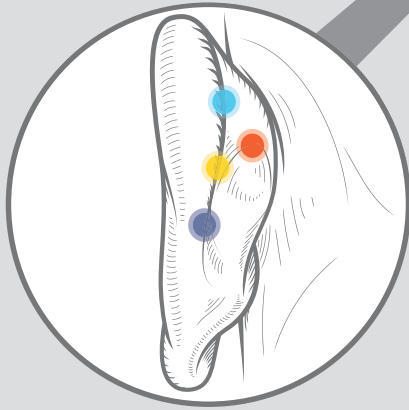
Men burned about 45 percent more fat on a rowing machine than on an exercise bike in a recent Irish study. Why? Rowing recruits more muscle. Your gut check: Try to row 2,000 metres in 7 minutes.



Knowledge / Health

Ah, That Hits the Spot

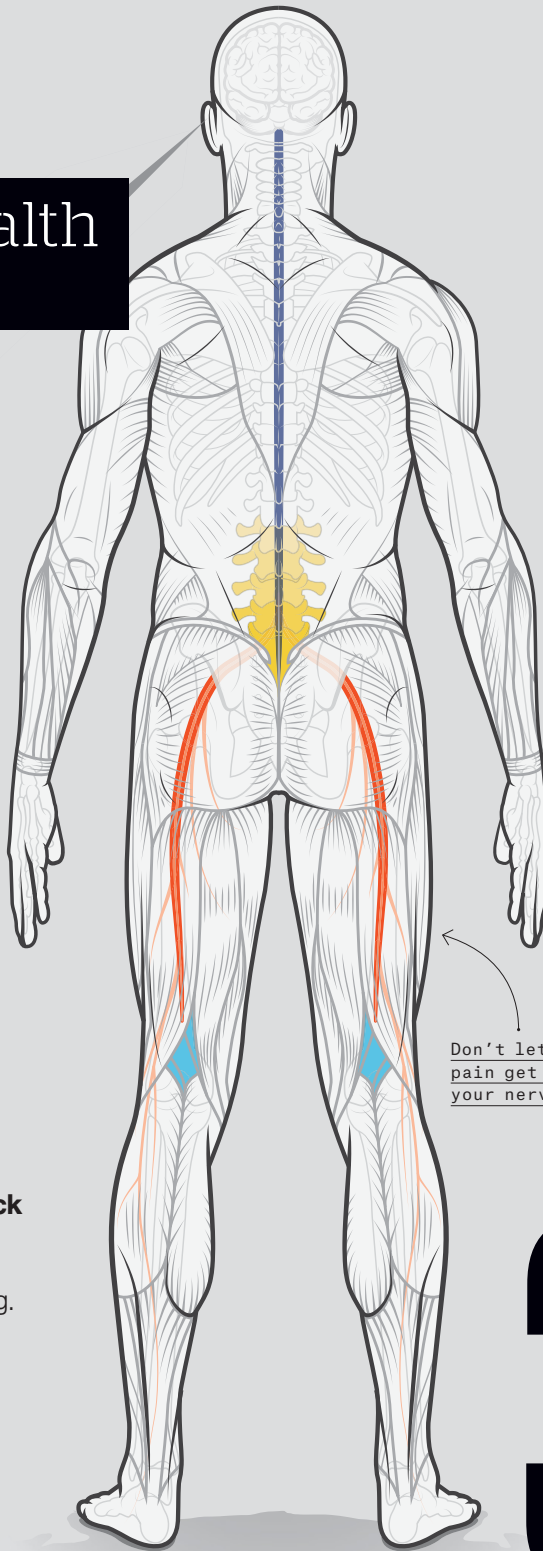
Applying pressure to these points in your ear sends pain-relieving signals down your spine.



- POPLITEAL FOSSA
- SCIATIC NERVE
- LUMBO-SACRAL
- GROOVE OF SPINAL POSTERIOR

Give Pain an Earful

Back barkin'? Try an aural medication. Recent University of Pittsburgh research suggests that **ear acupressure can help relieve chronic back pain**. People with the wince-inducing condition who received weekly treatments for a month reported a 44 percent reduction in their suffering. Study author Chao Hsing Yeh, R.N., Ph.D., explains that ear acupressure may trigger a neural pathway to release fewer pro-inflammatory chemicals and more anti-inflammatory ones.



Don't let the pain get on your nerves.



AVOID A FLEECING

Your bedding may lead to more sneezing than snoozing: **Cozy blankets can be a breeding ground for dust mites**, an Irish study suggests. When both fleece and cotton were exposed to the microscopic bugs, the plush material attracted 42 percent more mites than the cotton did. That's because fleece has deep pile fibers that twist and turn, allowing mites to crawl inside and settle there, says study author David Clarke, Ph.D. To kill them, wash fleece in hot water (at least 131°F) every week or two and line-dry if possible: The sun's UV rays help destroy the mites' allergens.

33

CLINT FORD (Illustration), Masterfile Royalty Free (mite), Wavebreak Media Ltd./Alamy (doctor)

INSTANT Rx

BLOW OFF HIGH BP

The Symptom Your blood pressure reading is often higher in a doctor's office than at home. Blame white-coat hypertension, a spike in BP brought on by the stress of seeing your M.D.

The Prescription Before you're cuffed, take three to four deep breaths over 30 seconds. In a Croatian study, people who did this lowered their systolic BP by 15 points. Deep breathing slows your heart rate, which in turn triggers the reflexes that control blood pressure to bring it down accordingly, the researchers say.



CUFF REMEDY

PERCENTAGE OF VICTIMS OF SPORTS-RELATED CARDIAC ARREST WHO'D HAD SYMPTOMS, LIKE CHEST PAIN, WITHIN THE PRIOR 7 DAYS

Source: Circulation

SEEK AND
YOU
SHALL ENJOY THE

RIDE

THE ALL NEW RIDE 8

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- ADVENTURE HQ DELMA MALL 02-4456995 • ADVENTURE HQ JBR 04-4304419 • ADVENTURE HQ TIMES SQUARE CENTER 04-3466909
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- FOOT LOCKER IBN BATTUTA MALL 04-4190633 • FOOT LOCKER MALL OF EMIRATES 04-4190475 • FOOT LOCKER MIRDIF CITY CENTER 04-4190708
- FOOT LOCKER SAHARA CENTER 06-5301331 • FOOT LOCKER THE DUBAI MALL 04-4190291 • INTERSPORT DEERFIELDS 02-5646390
- INTERSPORT AL-GHURAIR CENTER 04-2567279 • INTERSPORT DUBAI FESTIVAL CITY 04-2066581
- INTERSPORT TIMES SQUARE CENTER 04-3418214 • KING SPORTS FUJAIRAH 09-22416161 • ORLANDO SPORTS ALAIN 03-7645055
- ORLANDO SPORTS AL-WAHDA 02-4437356 • SAUCONY AL-WAHDA MALL 02-4459360 • ORLANDO SPORTS AL-RAHA MALL 02-5566629
- ORLANDO SPORTS AL-MAKTOUM 04-2288876 • ORLANDO SPORTS AL-MANAL CENTER 04-2286571 • SAUCONY THE DUBAI MALL 04- 3398081
- SAUCONY SUNSET MALL 04-3337155 • STADIUM THE DUBAI MALL 04-4340641 • STAR SPORTS RAK 07-2365811
- SUN & SAND SPORT THE DUBAI MALL 04-3253929

Knowledge / Health

BY
MARIA MASTERSPHOTO-ILLUSTRATION BY
MAURICIO ALEJO

A NEW WAR ON SUGAR

We used to think high-fructose corn syrup made us fat. So we switched to no-cal chemicals and sugar-free treats, and we're fatter than ever. Why?

POP QUIZ: WHAT DOES THE BACKSTREET BOYS' *MILLENNIUM* ALBUM HAVE IN common with high-fructose corn syrup? No, not the saccharine overload. *Millennium* was the top-selling album in 1999, the same year HFCS consumption peaked in the United States, according to the USDA. You might assume that obesity peaked then too. After all, high-fructose corn syrup is the devil's candy, driver of the obesity boom and the cascade of health problems associated with our national obesity epidemic, from diabetes and metabolic syndrome to heart disease and sleep disorders.

Or maybe not. Since 1999, Americans have continued to pack on pounds; now 67 percent of U.S. adults are overweight or obese, the World Health Organisation reports. The theory that HFCS was driving the belly bulge—the “HFCS hypothesis”—arose in 2002 and grew in influence for years, but it's currently under attack. As the new thinking goes, it's misguided to blame HFCS for making us fat. Many culprits contribute to obesity, including all kinds of sugar and maybe even artificial sweeteners. “People are still on high alert against HFCS,” says sports nutritionist Chris Mohr, Ph.D., R.D. “That's a good thing. But to lose weight, you have to watch your intake of all sugars.” That's easier if you understand why you crave sugar and how your body reacts when you cut down on it. Spoiler alert: You're going to like the results. This is the simplest way to lose weight you'll ever try. ▶



DANIEL STEN
Elite Personal Trainer



**"I work with hopes & dreams
to make people feel better"**



MAYBE YOU THINK THIS ISN'T ABOUT YOU. Maybe you hardly ever touch a sugar bowl or rip open a white packet. Doesn't matter: Just eating and drinking a typical diet, we suck down about 23 teaspoons a day of "added" sugar—sugar that doesn't occur naturally in food. That's 367 calories' worth, including roughly 183 calories from cane and beet sugars and 136 from HFCS. The weekly total: 2,569 calories, or the equivalent of a whole extra day of eating. Not a smart weight-loss strategy.

In fact, if you tally all the different caloric sweeteners the average person consumes in a year, it comes to 132 pounds—up 23 pounds from 1955. The American Heart Association recommends that men limit their daily intake of added sugars to 9 teaspoons, or 144 calories' worth, on average. We eat sugar mindlessly, so let's change that with a quick, painless lesson.

This is chemistry, but don't be afraid. Fructose and glucose are "simple" sugars, and both are found naturally in fruit in roughly equal proportions. Sucrose is a combo of glucose and fructose. So they're all cousins. Despite their kinship, they behave differently in the body, says Manal Abdelmalek, M.D., M.P.H., an associate professor of medicine at Duke University School of Medicine.

► **Glucose** is absorbed by your intestines and makes its way into your bloodstream; there a hormone called insulin helps shuttle it to your cells, where it's used as fuel. Any extra is stored as glycogen in your liver and muscles.

► **Fructose**, on the other hand, bypasses the insulin step and goes straight to your liver, where it's mostly converted to fat, says Dr. Abdelmalek. Studies link the overconsumption of fructose with increased visceral fat, high blood lipid levels, and insulin resistance. Moreover, fructose doesn't produce as many satiety hormones as glucose does, so you feel less full.

► **Sucrose** is a combination of glucose and fructose in equal proportions. Table sugar, for instance, is sucrose.

WE'RE WIRED TO LOVE ALL OF THESE SUGARS.

To our ancestors, sweetness signaled ripeness in fruit and precious calories. "Sugar is one of the primary things we crave," says Nicole Avena, Ph.D., a neuroscientist at the University of Florida at Gainesville. "It activates brain pathways that reinforce our desire to keep eating it."

Avena is a member of the research team that published a widely cited study in the *Journal of Nutrition* suggesting that sugar might be addictive. The scientists discovered that when rats binged on sugar, the rodents showed signs of withdrawal after it was taken away.

Research on humans is revealing similar tendencies: In a 2011 Yale study, when participants who exhibited symptoms of food addiction saw a picture of a chocolate milkshake, they experienced heightened brain activity in the same regions involved in drug addiction. But when they tasted the shake, their reward buzz was lower—a response that might cause them to eat more in order to experience the same pleasure.

Fighting our evolutionary desire for sugar is hard enough without being constantly bombarded with icecream and Kit Kat commercials. Avena says you should expect cravings when you start to cut back, but she predicts that they'll subside after a few days.

Fruit can help wean you off added sugar. Most fruits contain fructose and glucose in roughly equal proportions, but they also have fiber (which keeps you full) and nutrients. And fruit is self-regulating: You'd have to eat more than four small apples to take in the 65 grams

of sugar you'd guzzle from a 20-ounce bottle of pop.

Artificial sweeteners may seem like a perfect solution, but they're better viewed as a temporary bridge. Some people who swap regular colas for diet drinks can lose weight. A 2012 study from University of North Carolina at Chapel Hill found that when overweight people made the swap, they lost about 5 pounds in six months. However, research from the UT Health Science Centre at San Antonio suggests that drinking diet soda may increase waist size.

Another factor: Sugar substitutes can be hundreds of times sweeter than the real stuff. Researchers believe that eating them can mess with your appetite and make you crave sweet foods. Susan Swithers, Ph.D., a professor of behavioral neuroscience at Purdue University, discovered in 2008 that rats eating artificially sweetened chow consumed more calories and gained more fat than rodents that ate food sweetened with sucrose.

"Animals, including humans, normally finish a meal long before they have digested all the nutrients," she says. "That means they use cues to predict how much they have actually eaten and when to stop." One such cue is the taste of sweetness in the mouth; it's usually a yummy sign that calories and sugar will follow.

Artificial sweeteners might interfere with the signals that tell us to stop eating. "If you want to cut back on calories, diet drinks might help," Avena says. "But if you want to reduce your sugar cravings, they might just be a Band-Aid."

WHERE DOES HFCS FIT INTO THIS LINEUP OF SUSPECTS?

Any biochemist can confirm that HFCS is virtually identical to sucrose. HFCS comes in two formulas: one 42 percent fructose, the other 55 percent fructose. To your body, they're practically the same as table sugar, says Marion Nestle, Ph.D., a professor of

► BEAT YOUR SUGAR HABIT

The average person consumes 23 teaspoons of added sugar a day. Roll back your intake with these tips from Mike Roussell, Ph.D., author of *The 6 Pillars of Nutrition*.



KICK THE CAN OF SODA

Save 10 tsp

First replace it with diet soda to reduce calories while still having your sweetness fix. Then, after a week, make the switch to seltzer with a slice of citrus.



SWEETEN YOGURT NATURALLY

Save 2–4 tsp

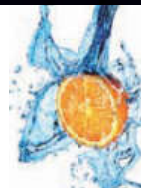
Fruit-on-the-bottom yogurts can contain almost 30 grams of sugar, much of it added. Opt for plain and mix in blueberries or sprinkle on cinnamon.



SNACK ON WHOLE FOODS AND GRAINS

Save 2–10 tsp

Instead of energy bars, candy, and cookies, eat nuts, vegetables, and fiber-rich fruits (like apples, pears, and berries) or whole grains, like popcorn.



DILUTE YOUR FRUIT JUICE

Save 2–3 tsp

Fruit drinks account for about 10 percent of the added sugar in our diets. Mix your juice with an equal amount of H₂O and you'll halve the calories.



SWAP OUT YOUR CEREAL

Save 2–4 tsp

Shelve the Frosted Flakes for steel-cut oats. Stir in a half scoop of vanilla protein powder for a sweetness kick. You'll add about 10 grams of protein.



PICK YOUR OWN DESSERT

Save 2–10 tsp

Grilled fruit makes a great dessert, providing a sweetness hit with a healthy dose of fibre. Try peaches, grapefruit, and watermelon. —M.M.

nutrition at New York University. "Because HFCS and sucrose are both fructose and glucose, there's no reason to think HFCS would be metabolised differently."

The HFCS hypothesis made sense when it was proposed in 2002 by George Bray, M.D., a professor studying obesity at the Pennington Biomedical Research Center. In 1970, several years after it was introduced into the U.S. food supply, HFCS represented less than 1 percent of all caloric sweeteners consumed in the United States. Food manufacturers loved the stuff: It stayed stable and cost about half as much as sucrose. By 2000, HFCS accounted for 42 percent of all caloric sweeteners on the market. Coincidentally (or not?), obesity rates in the United States climbed from 13 percent in 1960 to 31 percent by 2000.

But some scientists questioned HFCS's link to obesity. Sure, cheap HFCS adds calories without staving off hunger; but then so does sugar-sweetened soda. The American Medical Association's Council on Science and Public Health conducted a major review in 2009 and concluded that it was unlikely that high-fructose corn syrup contributed more to obesity than sucrose. Soon after that, Dr. Bray modified his position: "It has become clearer that it is the fructose in both HFCS and sucrose, plus the added calories, that are the culprits."

IF YOU WERE TO TAKE ALL THESE STUDIES AND expert opinions and rats and soda and fruit and sugar and put them through a blender—well, you'd lose your appetite pretty quickly. That's a start. Realistically, begin here:

► Beware of "healthy" sweeteners.

Most of the caloric sweeteners we consume—HFCS, white and brown sugars, honey—have both fructose and glucose, and 3 or 4 calories per gram. "People think molasses and brown sugar are healthier than white. They aren't," says nutritionist Mike Roussell, Ph.D. "What's more, table sugar has been underdemonised."

► Stop drinking sweetened beverages.

The top source of added sugars in our diet is soft drinks. They just add to your wide-bottom line: We typically don't compensate for drinking sugar-sweetened beverages by eating fewer calories at meals, a 2012 French study review found.

► Scan labels and cook more.

Some 75 percent of packaged foods harbor caloric sweeteners, a study in the *Journal of the Academy of Nutrition and Dietetics* reveals. Note the grams of sugar: Your quota is 9 teaspoons (a teaspoon is about 4 grams), so aim for no more than 36 grams of added sugars a day.

Do that, and we'll see you in 10 pounds or so.



► SWEETNESS SPECTRUM

Research suggests that consuming sweet foods can short-circuit your appetite's wiring, making you crave more sugary foods and eat more in general. This chart, created with help from nutritionist Kathleen Melanson, Ph.D., R.D., reveals which sweeteners and sugars pack the biggest punch. —DIANA STANCZAK

■ TIMES SWEETER THAN SUCROSE

LACTOSE

Though it doesn't taste sweet, lactose is still technically a sugar. It's a combination of two sugar building blocks, glucose and galactose.

Found in milk and dairy products.

.16

GLUCOSE

The same type that's in blood sugar, glucose fuels your muscles and brain. It's a simple sugar, meaning it's a part of complex sugars, such as sucrose and HFCS.

Found in sports drinks, honey, agave nectar.

.75

HFCS-42

Pure corn syrup is 100 percent glucose; this adulterated version is 42 percent fructose, 58 percent glucose.

Found in baked goods, processed foods, sweetened drinks, and soups.

.92

SUCROSE

You know this stuff as table sugar. It's a 50-50 glucose-fructose combination and is usually derived from sugar cane or sugar beets.

Found in a wide range of processed foods and beverages.

1

HFCS-55

This HFCS variation has a 55:45 fructose-to-glucose ratio. Because of the higher fructose content, it's sweeter than HFCS-42.

Found in soft drinks, mainly, but also baked goods and soups.

1.1

FRUCTOSE

A simple natural sugar found in fruit, fructose ranges from 1.2 to 1.75 on our sweetness scale, depending on the kind of fruit.

Found in fruits and other sugars like HFCS, honey, and agave.

1.4

HONEY

This natural blend of fructose and glucose is slightly sweeter than table sugar and is a better source of antioxidants and nutrients.

Found in some breads, granola bars, pretzels, and cereals.

1.5

AGAVE

This fructose-glucose syrup is derived from the same plant that yields tequila. It's high in fructose, containing up to 90 percent.

Found in cocktails; it's also used in coffee as a sweetener.

1.6

ASPARTAME

Sold as Equal Original or NutraSweet, low-calorie aspartame is made by combining two amino acids.

Found in many sugar-free products, including diet sodas and low-cal yogurts.

200

STEVIA

A zero-calorie natural sweetener made from the dried leaves of a South American shrub.

Found in smoothies labeled "no sugar added" (it's not a sugar), coffee sweeteners, and diet drinks.

250

SACCHARIN

That pink packet of Sweet'N Low is saccharin, a concoction of sulfur and other complex chemicals.

Found in some restaurant fountain drinks with aspartame (it increases its stability).

300

SUCRALOSE

Sold as Splenda, it's formulated from chlorine atoms that are substituted for hydrogen-oxygen groups in ordinary sugar.

Found in many low-calorie desserts and beverages.

600

Uncommon Knowledge

THE INSIDER'S
GUIDE TO EVERYTHING

DATA BOMB

Outsmart Every Demon

Want to freak out your friends this Halloween? Ask them if they ever think about going bankrupt. In a survey of Americans' fears, researchers at Chapman University in California found that men are most apprehensive or worried about the things they can't control—with going broke edging out an unexpected visit from the Reaper. Heights and animals also make the list, as do random evils such as terrorist attacks, says study author Christopher Bader, Ph.D. Use this page to gauge how your own fears compare to what's haunting other men. Then find out what causes you to quake so you can overcome it. —K. ALEISHA FETTERS

TYPE OF FEAR

Primal Threats

In primitive times, an aversion to snakes and steep cliffs may have saved us from self-extinction, says sociologist Margee Kerr, Ph.D., author of *Scream: Chilling Adventures in the Science of Fear*. Even the fear of public speaking is useful: No one wants to say something dumb and end up alienated. So caution is fine, but don't let it rule you. Maintain perspective by tracking experiences: Write down how you feel before the daring deed and then afterward. Over time you'll see that you inevitably survive—and that what you once feared you've now conquered.

Loss of Control

Most men feel that their actions can dictate their destiny, Bader says. That's why the concept of an uncontrollable event—like a heart attack, a layoff, or a stock market crash—leaves them stressed and anxious, says New York City psychiatrist Robert London, M.D. The 15-second fix: Close your eyes, breathe slowly, and replay a great memory as if it's being projected on a movie screen in your mind, Dr. London suggests. A 2014 *JAMA Internal Medicine* review found that meditation can work just as well as antidepressants to keep you calm.

Random Violence

Terrorist attacks and mass shootings unsettle us precisely because they're so random. This explains our strange fear of evil clowns and zombies—they're bogeymen built for chaos, Bader says. But random doesn't mean likely. You'll recognize that better by turning off the tube: Men who were most fearful tended to watch dark shows like *The Walking Dead* or *True Detective*. Then exorcise your demons: A review of research from the University of Georgia found that physically active people reported up to 55 percent less anxiety than sedentary folks.

Photo-illustration by SEAN MCCABE, iStockphoto (13)



Terror triggers,
and the number
of men they scare
the hell out of.

SHE'S RIGHT

Don't Inhale Your Food

SHE ASKS "Do you want me to ask the waiter for a shovel?" Translation: Stop eating like a hyena over a zebra carcass. It's more than just unattractive—it's bad for you.

WHY SHE'S RIGHT Your mouth is leaving your digestive system in the dust. In general, your brain needs about 20 minutes to record that your stomach is full, says Eva Almiron-roig, Ph.D., a dietary researcher at the University of Cambridge. At the same time, inhaling your entrée prevents your tastebuds from fully registering the flavour. "When you chew more, the food spends a longer period of time in your mouth, and the intensity of its taste is higher than when you chew for less time," Almiron-roig explains.

In fact, a study from Iowa State University reveals that normal-weight people take 27 percent more time to chew their food than overweight folks do. And in your haste to get your feed on, you may actually lose nutrients. A Purdue University study determined that people who chewed almonds 40 times before swallowing absorbed more satiating healthy fats than those who chewed 10 or 25 times.



HOW TO FIX IT Use a salad fork to limit the size of your bites. And whenever possible, choose foods that force you to recruit your chop-pers—steak instead of meat loaf, brown rice rather than mashed

potatoes, raw carrots in place of creamed spinach.

Your goal: no more than five forkfuls per minute. This rate correlates with that full feeling and a substantially lower calorie intake

per sitting, U.K. scientists say. Can't watch the clock and your plate at the same time? Match the pace of the slowest eater at the table. Or check the expression on your wife's or girlfriend's face. —LILA BATTIS

BODY BENCHMARK

Do You Have What It Takes to Be a Stuntman?

Insanity isn't a job requirement for the most dangerous work in Hollywood, but it might help. Several top performers with the Stuntmen's Association of Motion Pictures say a professional daredevil must be comfortable falling at least 50 feet from a window, driving a slalom course at 40 mph in reverse, and enduring at least 50 punches in a three-minute simulated brawl. Needless to say, this is advanced stunt work. To see if you have the basic lunacy and fitness to be a daredevil, try to hit these benchmarks set by Eddie Fernandez, one of Hollywood's top fall guys. Ace them and you could get cast—instead of ending up in one. —LAUREN DEL TURCO



30

Number of seconds to hold your breath while thrashing under water. (Beating O₂ deprivation is also key if you're ever set afire in a flame suit.)

150

Total punches thrown into a punching bag in three minutes. (It takes fitness and coordination to learn fast fight sequences.)

8.5

Pace, in miles per hour, to maintain while running 5 miles. (You'll need serious cardio to nail Bad Guy Chase Scene, take 47.)

BUY Q

The Blower That Leaves No Trace

A great leaf blower should really blow (and suck) so your lawn cleanup doesn't. But hassle-free also means no deafening drone from a gas-powered motor and no extension-cord trip hazard trailing an electric model. The solution? Battery power! The newest rechargeable types have the juice to compete with the blowhards, minus the noise, pollution, and booby-trap cord. Here's how to draft a winner. —JEFFERY LINDENMUTH

A

POWER SOURCE Lithium-ion batteries are smaller and lighter than NiCads and won't lose their charge between uses, says Marissa Munoz of Power Equipment Direct. A battery labeled "4Ah" (4 amp-hours) should yield 40-plus minutes of run time. Go with a 24-volt minimum for full-throttle muscle.

B

WIND SPEED AND CONTROL Those mph claims may be a lot of hot air. Instead, spec out cubic feet per minute (cfm), which tells you the volume of air being moved, Munoz says. A minimum of 120 cfm is good for most lawns. And skip button controls; a dial or pressure trigger is far more precise.

C

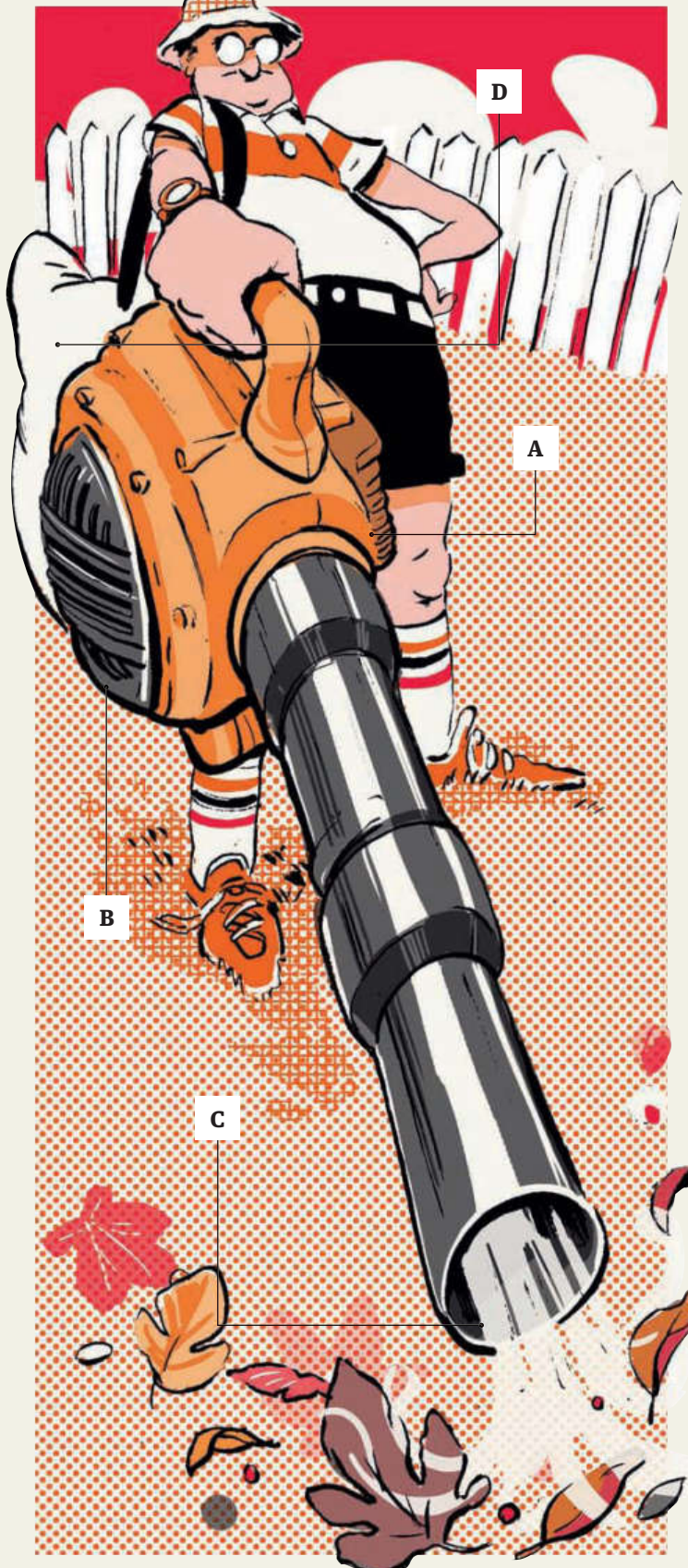
WEIGHT AND LENGTH Your rig should be under 10 pounds *before* the battery is attached, says Chris Lambton, host of DIY Network's *Yard Crashers*. For fit, try this test: Hold the blower at your side like a suitcase. The nozzle should be 2 to 3 inches above the ground to avoid wrist or elbow strain.

D

MULCH MODE Suck-and-grind settings may drain a charge twice as fast as shooting air, says Munoz. So buy a backup battery or blower that allows swap-ins from other tools. Bag capacity? Shoot for a bushel, max. Compressed leaves add weight fast, and only your yard should end up winded.

OUR FAVORITES

BLACK+DECKER LSWV36, \$150 (FOR A SMALL YARD); **GREENWORKS DIGIPRO G-MAX**, \$350 (FOR MAJOR ACREAGE)



Stop working like a dog. It's time you learned a new trick.



FINAL ANSWER

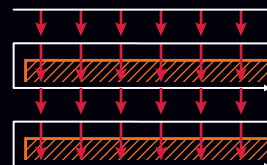
RAKE YOUR LAWN FAST

For centuries, guys have groaned about autumn for a reason: Unless you own a leaf blower, you'll be manually moving fallen foliage off your lawn. Here's how to rake leaves without losing your entire weekend.

Your usual method may be to make several piles to divide into lawn bags. That wastes time, though. You're retracing steps over areas you've already cleared!

Instead, start at one side of the yard and work your way to the other in a zigzag pattern. As you move down your first column of lawn, rake the leaves sideways into the still-leaf-strewn zone you've yet to uncover. Then turn the corner, moving back into that now-slightly-more-congested area. Now rake your little ridge of refuse over a few feet more, opening up lawn space. Repeat until the long strip of pushed-over leaves is tough to move, or about 2 feet high. Scoop the big berm into bags and restart your sweep system.

For a three-bag job, this is 1.3 times as fast as making mounds. For a five-bagger, it's 1.6 times as fast. So if the chore once took 45 minutes, it'll be done in less than 30. The hard work is in the bag.



WALK → RAKE ↓ BAG ←

BY MARK ROBER, A FORMER NASA ENGINEER WHO HOSTS HIS OWN SCIENCE AND CREATIVITY CHANNEL ON YOUTUBE

Turn your pumpkin's guts into snacking glory, says David LaForce, chef at the Mexican eatery El Vez in New York City. In a skillet on medium high, add the seeds, a splash of light olive oil, and a pinch each of sea salt and ancho chile powder. Stir until golden brown, 5 minutes. Then chew and spit like spicy sunflower seeds.

QUICK CLICK



"When you're looking a person in the eyes, you want to find common ground, not call them an idiot and block them."

—MH WRITER COREY LEVITAN ON WHAT HAPPENS WHEN YOU INVITE ONLINE-ONLY "FRIENDS" TO DINNER. READ MORE AT MENSHEALTH.COM/FRIENDSLIST.

MONTHLY METRICS



Games Grind

22% of MLB post-season games went to extra innings last year. Pace-of-play rules won't save you; take a power nap after work if you want to watch the last out.



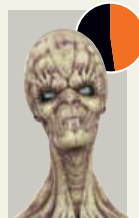
Hygiene Heals

38% of adults skipped the dentist last year. Fear pain? Try the "single tooth anesthesia" system for pinpoint numbing. Do it for Dental Hygiene Month.



Buyers Begin

40% of people began their holiday shopping this month last year. So spend now or pay more later; early birds end up dropping \$385 less than those who wait.



Stars Shoot

48% of adults think aliens exist. Mull it over as you watch the Orionids meteor shower (10/21–22). Best time: after midnight. Go early to let your eyes adjust.

Sources: CBS Sports, ESPN, CDC, Dentalcare.com, National Retail Federation, American Research Group, HuffPost/YouGov poll, NASA



WEEKEND PROJECT

Trick Out Your Pumpkin

You don't have to be Dr. Frankenstein to create a monster jack-o'-lantern for your porch. With a sick imagination and some simple knife work, you can transform an ordinary gourd into a crazy cannibal, a scalped squash, a funny mummy, or a puking pumpkin, says master pumpkin carver Tom Nardone, author of the DIY guide *Extreme Pumpkins*. Make your own crazy cuts to crank out a keeper. That way your neighbors' creations won't have jack on yours this year. —L.B.

Secure Your Gear

Choose a 15- to 20-pound pumpkin, and don't worry if it has dents or bruises. You'll also need newspaper, an ice-cream scoop, a drywall saw, a dry-erase marker, and a few battery-powered tea lights. For the mummy, pick up white hockey-stick tape. For the scalped pumpkin, buy a can of foam insulation spray, a disposable aluminum pie plate, and fake blood. For the cannibal, you'll need a second, smaller pumpkin about a quarter of the original's size.

Scoop Your Goop

Find a table that's at least hip-high so you can carve standing up. Lay out newspaper and plop down your pumpkin. Holding the point of the drywall saw at a slight angle, carve out a circular lid that's at least 5 or 6 inches in diameter. (For the scalped squash, the diameter should be roughly the same as your pie tin's.) Note: You don't want a perfect circle—a notch or two will make the lid easier to put on and keep it from falling through. Now use the scoop to remove the seeds and membrane from the lid, and then scrape out the interior guts, using a circular motion around the walls. (If you're doing the puking pumpkin, leave the entrails inside.)



CRAZY CANNIBAL

To make sure you end up with an appropriately gaping maw, use the dry-erase marker to trace an outline of the little pumpkin against the mouth area of the bigger one.



SCALPED SQUASH

Put pumpkin brain on display by setting the lid aside and inserting the pie plate instead. Fill the plate with overlapping loops of foam spray coated in fake blood.



FUNNY MUMMY

For the friendly fiend, carve round eyes and an upturned mouth. Leave the lid on when you wrap it in hockey tape so the bandages match up. Then retrace the lid cuts.



PUKING PUMPKIN

The secret to a gagging gourd? Squinty eyes and an open mouth that droops at each end. Then pull the guts through to finish the truly wretched (and retching) look.



Do the New Milks Deliver?

Nuts, soy, rice, and hemp are now available in beverage form. But just how nutritious are these moo juice alternatives? BY JULIE STEWART



WHEN I WAS A KID, MILK WAS THE DELIGHT OF THE DAIRY MARKET, but now there's trouble in the pasture. Sales of nondairy milks have spiked 94 percent since 2009; in 2014 alone they increased an estimated 16 percent, according to the soy-bean counters at the market research firm Mintel. Why's that? Well, alterna-milk output has boomed in recent years, partly because the ingredients are less expensive to produce than real milk, which involves raising dairy cows. People are switching because they believe these alternatives are more nutritious, Mintel notes. We call that udder b.s.

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DROP 5 POUNDS!

WHEN ONE *MH* EDITOR DECIDED TO EAT CLEAN, HE SHRANK!

I was lugging around an extra 20 pounds. Then *MH*'s sibling publication *Prevention* challenged me to join its *Get Someone to Eat Clean* initiative at eatcleanecourse.com/mh. That meant I had to avoid foods produced with pesticides, antibiotics, preservatives, added sugars, and fake fats. It only sounds tough. Here's what stuck with me.

UNPROCESS THINGS

Eat Clean to Get Lean is a free, organic-based, additive-averse 1,800-calorie-a-day plan. That meant I had to buy gut-filling organic produce (spinach, kale), organic grains, and lean proteins like salmon, turkey, and chicken. The junk food, naturally, disappeared.

FIND YOUR PULSE

Before all this, I'd often stress-eat. But on the Eat Clean plan, I soon fell into a rhythm of consuming three 500-calorie meals with two 150-calorie snacks in between. After a few days, my stomach learned to expect food based on the time of day, not my emotions.

SAVOUR THE RESULTS

I dropped 5 pounds in a week. And I craved the meals—stuff like Organic Grilled Chicken Breast with Plum and Walnut Relish. I felt more satisfied eating these dishes than I ever did polishing off greasy Chinese takeout. Verdict: It worked—and fast! —DAN MICHEL



If you swap in nondairy milks for the real deal, you miss key nutrients.



BUT BEFORE WE SLOSH INTO the science of these newly popular milk alternatives, let's look at good old-fashioned cow's milk. Here are the positives: An 8-ounce glass of whole milk has nearly 8 grams of protein

and 149 calories. For comparison, a 4-ounce skinless roasted chicken breast has 35 grams of protein and 186 calories. Beyond being easier to chug than chicken, that glass of milk also provides 28 percent of your daily value of calcium and 31 percent of your immunity-boosting, inflammation-reducing vitamin D. And the saturated fat in milk—even in full-fat form—won't necessarily hurt your heart. A *European Journal of Nutrition* study found that peo-

ple 55 and older who consumed 4 ounces of full-fat dairy a day were 12 percent less likely to suffer fatal strokes than those who consumed low-fat dairy.

Even chocolate milk has benefits. In a recent U.K. study, men who drank it 20 minutes after a climbing session and again at dinner had less muscle soreness three days later than they did when they drank water. The combination of sugar and protein provides your cells with the energy they need to adequately repair muscle tissue, the researchers say.

But some scientists question other supposed benefits of milk. Take, for example, its bone-building reputation. "Countries with the lowest rates of dairy and calcium consumption also have the lowest rates of osteoporosis," says Mark Hyman, M.D., director of the Cleveland Clinic Center for Func-

"THE IRRATIONAL FEAR OF MILK IS CRAZY, BUT EQUALLY CRAZY IS THIS NOTION THAT IT'S A MAGIC ELIXIR."

tional Medicine. Still, the USDA recommends that a man take in 1,000 milligrams of calcium a day to keep his heart, brain, and muscles working well. But milk's calcium level is nothing special, Dr. Hyman says. Eight ounces of milk has 276 milligrams of calcium. Three ounces of sardines has 325 mg. A cup of cooked broccoli rabe has 201 mg. Three cups of cooked kale delivers about the same amount of the mineral as a glass of milk. And for bone health? Go fish: Three or more servings of fatty fish a week helped study participants protect their bone density as they aged, the *American Journal of Clinical Nutrition* reports.

Another persistent myth: that milk is a weight-loss tonic. Yes, milk has fat and protein, which can help you feel full, says Alissa Rumsey, R.D., C.D.N., of the Academy of Nutrition and Dietetics. But how are you drinking it? A study in the *International Journal of Obesity* found that simply drinking more milk didn't prevent weight gain. People stayed leaner only when they swapped in milk for soda or fruit juice.

Fearmongers argue that drinking another animal's milk is unnatural and may lead to health problems as you age. But the bottom line is this: "The irrational fear of milk is crazy, but equally crazy is this notion that it's a magic elixir," says J. Bruce German, Ph.D., a professor of food science and technology at UC Davis. Drinking a glass or two of milk a day is an easy way to swallow key nutrients, such as vitamin D, but other foods—like fish and eggs—also offer vitamin D. In fact, a cooked tilapia or flounder fillet has about as much

vitamin D as a cup of whole milk does—and three eggs provide about that amount as well. (Plus, those foods go better with hot sauce.)

Now, your first question about nondairy milks might be "How do they milk an almond?" Well, because almonds—like soybeans, rice, and hemp—are teatless, manufacturers grind the plant product and mix it with water and vitamins. The result can taste chalky or flat, so processors may add flavors and sweeteners.

And sure, cow's milk also contains sugar, but it's in the form of lactose, which may not drive up your blood sugar as quickly as sucrose—the kind you're likely to ingest in processed goods like nut milks. Read the nutrition facts and ingredients list, advises Christopher Gardner, Ph.D., a nutrition researcher at Stanford. Nondairy milks can differ substantially from dairy milk—and from one another. So check out the table below before you hit the grocery store. In short: Think before you drink. ■

SHOULD YOU CHANGE WHAT YOU CHUG?

THERE'S MILK, AND THEN THERE'S "MILK." DECODE THE CARTONS WITH THIS GUIDE.

THE UPSIDE	THE DOWNSIDE
 ALMOND MILK	<p>Unsweetened almond milk has just 30 calories per cup, which is less than half the calorie load of even skim milk. The stuff tastes pretty good too, especially when you use it to thin out your homemade smoothies.</p> <p>► If you think this drink is a good protein source, you're nuts: It has 1 gram of protein per cup. And while almonds have research-backed heart benefits, it's less clear if their milk is as good, says nutritionist Alissa Rumsey, R.D. Those perks come from the healthy fats and fibre of unprocessed almonds.</p>
 SOY MILK	<p>Soy milk has the most protein of all the non-dairy options—about 7 grams per 80-calorie cup. Mississippi State University research suggests it also has cancer-fighting properties; its isoflavones may lower cancer cell growth.</p> <p>► Soy contains phytoestrogens, plant-based hormones that may, in excess, lead to dips in testosterone. Up to four servings a day, however, shouldn't hurt, says <i>MH</i> nutrition advisor Alan Aragon, M.S. Oh, and watch out for sugar: One cup of Silk Very Vanilla has 15 grams of sugar.</p>
 RICE MILK	<p>If you have dairy, nut, or soy allergies, rice milk is a good option. Most brands are enriched with vitamin D, calcium, and B12. And if gluten is something you're concerned about, don't worry—rice milk is naturally gluten-free.</p> <p>► Rice milk contains virtually no protein. Plus, like most rice-based foods, rice milk might harbour small amounts of toxins. In a study from Mississippi State University, samples of rice milk contained traces of arsenic, in some cases exceeding the levels the EPA allows in drinking water. Scary stuff.</p>
 HEMP MILK	<p>Each serving of this milk contains about 4 grams of heart-healthy polyunsaturated fats, including some anti-inflammatory alpha-linolenic omega-3 fatty acids, says Rumsey. It's also allergy-friendly.</p> <p>► Nope, it won't get you blazed. And 1 cup contains just 2 grams of protein and no fibre. You're better off buying the seeds and shaking them over salads, yogurt, or oatmeal. Thirty grams (3 tablespoons) provides as much as 10 grams of protein and up to 3 grams of fibre.</p>
 FAIRLIFE	<p>The Coca-Cola product, branded as "ultra-filtered" cow's milk, provides 5 more grams of protein and 6 fewer grams of sugar per serving than traditional milk. And it's lactose-free, a plus if lactose doesn't agree with you.</p> <p>► "What they did was reduce naturally occurring lactose," says Rumsey. Yes, there's less sugar, but the calorie count is the same. "For the extra price, you aren't getting anything much different from regular milk." You can score that 5 grams of protein in just one small egg anyway.</p>



NUTRITION KNOW-IT-ALL

By Mike Roussell

If I microwave fruits and vegetables, will it degrade them nutritionally?

JIM, CLEARWATER, FL
Yes, cooking vegetables like spinach reduces B vitamins. But with tomatoes, on the other hand, cooking helps your body absorb the beta-carotene. But we're talking minutes. Eat a variety of produce—raw, microwaved, roasted, sautéed, or steamed. As long as you don't cook the stuff till it's gray, you'll reap the benefits.

Is agave syrup really healthier than sugar?

WILL, SPOKANE, WA
Definitely not. Table sugar is 50 percent fructose, while agave syrup is about 85. Moderate amounts of fructose are fine, but a lot, especially if you have diabetes or poorly controlled blood sugar, may lead to elevated triglycerides, gout, and high blood pressure. When it comes to agave, stick to the way it's enjoyed best: in bottled form.



Mike Roussell, Ph.D., is a nutrition consultant based in Rochester, New York. Tweet him: @mikroussell

Salt-and-
PepperedSugar-and-
SpicedTurkey-
fied!Soy
MarinatedEspresso
Charged

NUTRITION (PER 1 OZ SERVING BEEF): **CRACKED BLACK PEPPER RUB** 63 CALORIES, 9g PROTEIN, 1g CARBS (0g FIBRE), 2g FAT **SWEET HEAT RUB** 67 CALORIES, 10g PROTEIN, 2g CARBS (0g FIBRE), 2g FAT **TERIYAKI GINGER MARINADE** 63 CALORIES, 10g PROTEIN, 1g CARBS (0g FIBRE), 2g FAT **SMOKY ESPRESSO BROWN SUGAR MARINADE** 62 CALORIES, 9g PROTEIN, 1g CARBS (0g FIBRE), 2g FAT

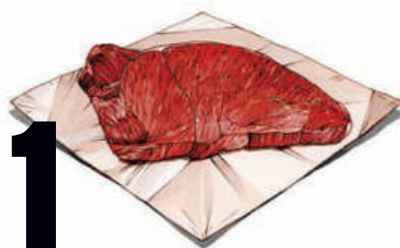


DIY Jerky: It's Dried and True

Slow-cook the ultimate snack in your kitchen. Devour at will.

BY MATTHEW KADEY, M.S., R.D.

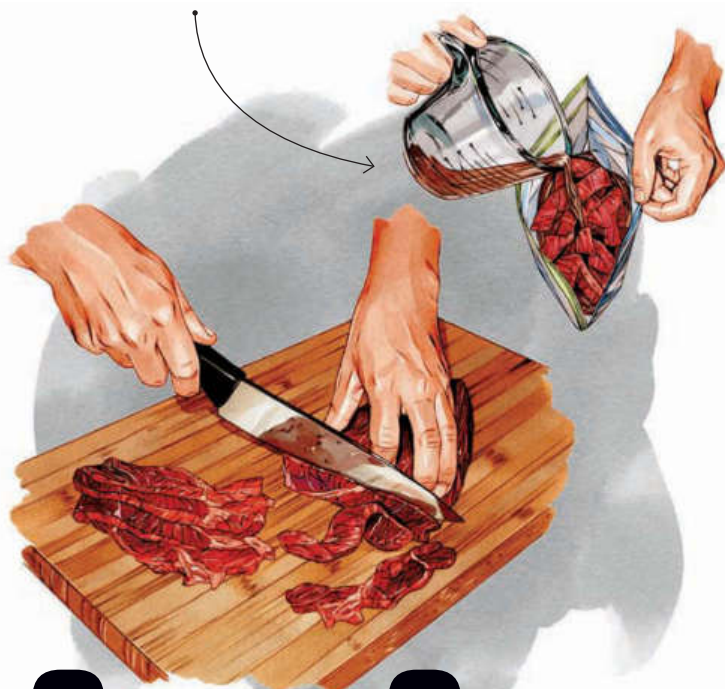
MEATY, LEAN, AND EVERLASTING, jerky might be the world's greatest portable protein. (Just try hauling a bag of hard-boiled eggs on a road trip.) But you don't have to swerve into a convenience store every time you need a fix. "If you make your own jerky, you have ultimate control over the flavour," says Benkei O'Sullivan, executive chef of New York City's Hunt & Fish Club. "Plus, homemade jerky is about half the price of a bag of the store-bought stuff." All you need is an oven, a hunk of fresh animal flesh, and a few secret seasoning blends. From there, it's easy if you follow O'Sullivan's five steps.



Go Shopping

Buy a 2-pound piece of top round steak, and ask the person behind the counter to trim off any visible fat and silver skin. The leaner the beef, the longer your jerky will keep. This amount of meat will yield about $\frac{3}{4}$ pound of jerky. Oh, and if you're dealing with a friendly butcher, ask to have the beef sliced into $\frac{1}{4}$ "-thick strips roughly 4" long. If you can make that happen, skip Step 2.

Hey, hungry hunters! This process also works well with turkey, elk or venison.



2

Prep the Protein

Seal the steak in plastic wrap and stick it in the freezer until it stiffens slightly, about an hour. This will make the slicing easier. Remove the beef, unwrap it, and use a sharpened chef's knife to cut it into 1/4"-thick, 4"-long strips.

3

Treat Your Meat

Marinating the meat gives jerky the most flavour; let it sit in the sauce overnight in the fridge. Dry rubs require two hours of refrigeration. For either route, combine the sliced meat with the ingredients (at right) in a large zip-top bag.

PICK ONE...

CRACKED BLACK PEPPER RUB

- 2 TBSP SEA SALT
- 2 TSP FRESHLY GROUND PEPPER
- 2 TBSP BROWN SUGAR

SWEET HEAT RUB

- 3 TBSP BROWN SUGAR
- 1 TBSP SEA SALT
- 2 TSP GARLIC POWDER
- 2 TSP DRIED THYME
- 1 1/2 TSP GROUND CHIPOTLE CHILE
- 1 TSP FRESHLY GROUND PEPPER
- 1/2 TSP GROUND CUMIN
- ZEST OF 1 ORANGE

TERIYAKI GINGER MARINADE

- 1 CUP PINEAPPLE JUICE
- 3/8 CUP SOY SAUCE
- 1/4 CUP RICE VINEGAR
- 2 MINCED GARLIC CLOVES
- 2 TBSP BROWN SUGAR
- 1 TBSP CHINESE FIVE-SPICE POWDER
- 1 TBSP SRIRACHA
- 1 TBSP MINCED FRESH GINGER
- ZEST OF 2 LIMES

SMOKY ESPRESSO BROWN SUGAR MARINADE

- 1 1/2 CUPS STRONGLY BREWED COFFEE (COOLED)
- 1/8 CUP FRESH LEMON JUICE
- 1/4 CUP BROWN SUGAR
- 1/4 CUP WORCESTERSHIRE SAUCE
- 1 TBSP SEA SALT
- 2 TSP GROUND ALLSPICE
- 2 TSP RED-PEPPER FLAKES
- 2 MINCED GARLIC CLOVES
- 2 TSP LIQUID SMOKE (OPTIONAL)



4

Rig Your Hot Box

Preheat the oven to 200°F. Place metal cooling racks on two baking sheets. Shake off excess marinade or spices and place the strips on the racks with space between each piece. Put it all in the oven. To aid dehydration, use a wooden spoon to prop the oven door open 1/2".

5

Dehydrate

The jerky is done when you can tear a strip easily and it springs back when folded, 3 to 5 hours. Use a paper towel to blot moisture, and cool completely before storing in an airtight container. It'll keep in the fridge up to three months.

Page to plate in 8 minutes!



THE MH FAST FOODIE™

PICK UP A ROTISSERIE BIRD, AND FEAST WELL ALL WEEK!

Chop-Chop Salad

Toss a few handfuls of chopped romaine with these add-ins (all chopped): some rotisserie chicken, tomato, avocado, roasted red pepper, and scallions. Add a spoonful or two of black beans and/or corn. Dress with olive oil, lime juice, salt, and pepper. Not your bag? Check out these three recipe remixes.

REMIX 1 If you like Asian flavours, swap out the tomato, pepper, beans, and corn and add the following: shredded carrot, shelled edamame, sliced snap peas, diced cucumber, and crushed cashews. Add a little sesame oil to the dressing too.
REMIX 2 Go Greek! Keep the chicken, tomato, and red pepper, but add feta, kalamata olives, and thinly

sliced red onion.
REMIX 3 Or just pump up the protein. Leave the original alone, except throw in a few grilled shrimp, a fistful of leftover cooked quinoa, and a scattering of thawed peas. Then mix a spoonful of Greek yogurt into the dressing. These adds tack on an extra 15 grams of protein to the original salad.

NUTRITION (FOR ORIGINAL SALAD): 408 CALORIES, 31g PROTEIN, 23g CARBS (9g FIBRE), 23g FAT



Master and Commander

Row like an Olympian by mastering these six steps



IF YOU WANT A HEART-HAMMERING CARDIO WORKOUT, LOOK NO further than the ergometer (ERG), or the indoor rowing machine. An intense workout on the ERG can fry fat, combust calories, and build serious muscle. Unfortunately, most guys stray from this gym staple because they don't know how to use it. And if you do hop on for an interval or two, it's easy to fall into common rowing pitfalls that prevent you from getting the best workout possible.

It's okay. We've been there, too. So we reached out to two-time world silver medallist, former Olympic rower and doctor Cameron Nichol for help. Nichol has switched from the

oar to the barbell, and competes in CrossFit while also coaching superstars like InnerFight's Phil Hesketh (Dubai), Steve Fawcett (UK) and Bjorgvin Karl Gudmundsson on technique ahead of the CrossFit Games earlier this year.

His free training programme at Rowing WOD [www.RowingWOD.co], is followed by thousands of athletes worldwide which helps athletes master the machine and build their engines.

Nichol will be in Dubai later this month (see below for dates and details) to conduct two master classes (one seminar, the other a two-day training camp) at InnerFight's HQ in Al Quoz.

For those who want to get ahead of the curve, Nichol has compiled a six-point plan for total Erg dominance and fitness.

1. START THE PROCESS

"A journey of a thousand miles begins with a single step." - Lao Tzu

I have a lot of people come up to me and ask me the quickest and most efficient way to get fit. I always point them towards the rowing machine. Rowing is a total body exercise, working the legs, back, core and arms. When done correctly, it burns more calories per minute than any other piece of cardio equipment in the gym. You can increase your power with short intervals at higher intensity and also build huge aerobic fitness when you accumulate volume and miles on the machine. The secret, though, is getting started.

2. THE PERFECT WORKOUT IS A MYTH

I'm also asked often which rowing workout is the best to build fitness. The answer is all of them. I always say the most important workout is the one you are about to do. So don't get caught up in finding the perfect workout, instead, start simple and just develop the habit of rowing regularly. Commit to getting on the rowing machine twice a week and doing something.

Building your fitness is a long journey. That journey should be progressive and structured but also fun. Enjoy the process and you'll likely accumulate more workouts and miles in the bank. If you need some rowing workout ideas, visit www.RowingWOD.co to get two workouts per week from my free training programme.

As my former coach Jurgen Grobler would say "miles make champions". And he's made quite a few.

3. RECORD YOUR JOURNEY; RECORD YOUR PROGRESS

Rowing for competitive fitness or CrossFit competitions is varied and demands that you know more about the machine than professional rowers. Finding a cruising pace that leaves you fresh enough to attack a set of thrusters or burpees is just as valuable as your 2k time or maximum split (time/500m). Likewise, being able to transition on and off the machine efficiently is a skill that allows you to outperform international rowers on certain workouts. Practice makes perfect.



Monitoring and recording your speed, rate and distance during training is an essential first step to achieving this. You'd never walk up to a barbell, add an any old weight, lift it, then walk away. Yet I see the equivalent on the rowing machine. Whatever the workout, take notice of your numbers, record your progress and hold yourself accountable. That's how you'll dominate rowing workouts.

4. LET YOUR SCORES DO THE TALKING

To see results on the rower, you must push yourself. But falling off the machine and rolling on the floor like Ronaldo won't clear lactate. Your workout is only as good as your recovery and in the rowing team, our mentality was that the next training session started as soon as the previous finished.

To accumulate volume and build a big engine, this means clearing lactate from your system as quickly as possible after a workout. Get the work done and start your recovery instantly by sliding up and down the machine. Your hard work is shown in the score, not your post-workout lactate dance.

5. THE MAGIC IS IN THE MOVEMENT

Using your bodyweight to move the handle is a skill that unlocks real speed on the machine.

It's also easy to learn but extremely hard to master. The first secret to learn is that it's all in the legs. Almost two-thirds of the power in the rowing stroke comes from the legs and they should be pushing your feet into the footplate from the moment the handle starts moving away from the wheel until it comes into contact with your body.

I like to think of everything we do to move the handle as an addition to this long leg drive. The back opens smoothly but forcefully as the legs start to flatten. The arms finish off the stroke when the legs are flat but are still pushing your feet into the footplate. This is a strong drive phase.

The recovery is simply the reversal of this movement and organises the body to take another stroke. The movement should flow so freely from one stroke to the next that an onlooker couldn't point out a clear start/stop position at any point in the stroke. Think cycling rather than reps.

Get this right and it's one of the most physiologically demanding movements on earth. Perfect for building yourself a V12 aerobic engine.

6. ROWING IS RHYTHM

From our heartbeat and breath to the way we move, rhythm is part of us. It's also the driving force for speed on the rower. One of the best ways to strengthen your rhythm is to row together.



DETAILS

Nichol will conduct two courses while he's in Dubai.

The Elite Training Camp takes place on October 14-15 and is designed for athletes who want to truly destroy CrossFit rowing workouts. The camp covers biomechanics, technique and fundamentals, and moves on to competition strategy and focused, individual approaches to specific rowing scenarios.

The Rowing 101 Seminar (October 16-17) is a two-hour tutorial designed to boost your performance on the Erg and test your abilities. You'll learn how to correct common technical errors and unlock free speed on the machine.



Visit www.innerfight.com/rowingwod Join the crew at www.RowingWOD.co and on Facebook www.facebook.com/groups/rowingwod Follow Cameron Nichol here (link: www.instagram.com/cameronnicholgb/ @cameronnicholgb)



Best Muscle Meal

Prime your muscles with clean carbs and 34g of protein in 10 minutes. Spend the rest of your lunch break in the gym – tease your colleagues as they choke on their fast food

BEST POST-WORKOUT OFFICE LUNCH

THE PROTEIN CLUSTER BOMB

WHAT YOU'LL NEED

- 2 MEDIUM-SIZED SWEET POTATOES
- 1 CAN OF TUNA IN WATER
- A PINCH CHILLI FLAKES
- 1 SPRING ONION, SLICED
- 150G LOW-FAT COTTAGE CHEESE
- 1 OFFICE MICROWAVE

Step 1/ 0-8 minutes

Don't worry, you're only really prepping for 30 seconds. Prick the sweet potatoes all over with a fork, then microwave. Flip them over halfway through.

Step 2/ 8-9 minutes

Once they're done, cut the potatoes lengthways and squeeze the ends inwards to make a pocket for your muscle-friendly payload. They'll be ridiculously hot, so leave to steam away.

Step 3/ 9-10 minutes

Meanwhile, drain the tuna and mix in the chilli and spring onion. Pack the low-GI shell with your filling and top with cottage cheese. It's a more explosive post-workout meal than anything on the street. And a lot cheaper too.

COOKING TIME: 10min | PROTEIN: 34g | CARBS: 26g | ENERGY: 1699 kJ | SATURATED FATS: 0.5g



GYM JESTER
Mark Fisher
 Fitness trainer
Brian Murphy
 adds levity to
 the lifting.

Weird Workouts for Mad Muscle

You laugh, but the bodies they build at America's zaniest gym are no joke. Ready to get ridiculously ripped? **BY MICHAEL EASTER**



IF YOU CLOSE YOUR EYES, MARK FISHER FITNESS MIGHT sound like any other gym. Dumbbells clank, cardio machines whirl, and trainers offer encouragement—"Looking good!" "Five more reps!" But you don't have to listen long before the normalcy is shattered: "You guys are my f**king ninjas!"

Standing with his arms crossed and dressed in a purple T-shirt, gray bow tie, and tiger spandex, the gym's cofounder nods approvingly at a kettlebell class. "F**king ninjas!" Mark Fisher repeats, turning to cross a weight room decorated with disco balls, neon paint, and a wall-mounted unicorn head.

In a fitness culture dominated by six-pack selfies, arduous CrossFit WODs, military-style boot camps, and captain-of-the-football-team trainers, Mark Fisher Fitness (or simply MFF) stands out like a pink feather boa in a Brooks Brothers store. And indeed, such a prop would draw about as much attention in this surreal muscle factory as zero-drop training shoes. MFF is fun. It's madcap. It's Broadway and improv comedy meets barbells, kettlebells, and state-of-the-art strength training. And Mark Fisher's facility is quickly becoming one of the most talked-about gyms in the country.

"I was a stage actor who was always a fitness nerd," says Fisher as he stops to check the form of two of his "ninjas": a string bean of a man in his mid-20s firing off pullups like a varsity gymnast, and a curvy 40-something woman in yoga pants and a sports bra banging out hex-bar deadlifts. "I had a lot of success training other performers, especially those who didn't feel comfortable in a conventional gym, so I left the stage to create a place that catered to them."

That was back in 2011. Today, the clientele at Fisher's facility in Manhattan's Hell's Kitchen district is an eclectic combination of New York's theater elite, exercise fanatics, and regular men and women who've had enough of the testosterone-infused fitness chains that seem to dominate the national landscape.

"Mark Fisher understands his niche, and his blend of cutting-edge training and undeniable weirdness might be just what the industry needs," says Dan John, an elite strength coach in Salt Lake City and the author of *Intervention*. "Everyone knows they need to exercise, but traditional gyms aren't always welcoming. Mark is able to make people who wouldn't normally join a gym become passionate about fitness."

At its heart, MFF is an exercise in radical inclusion, a wacky island of glitter bombs and rainbow confetti where "normal" is a fluid



CAPED CRUSADER
Mark Fisher is on a mission to beat the boring out of every workout.

concept. "It's strange, and that strangeness serves a higher purpose," says Harold Gibbons, C.S.C.S., a trainer at MFF. Injecting an element of performance art into the classes and training sessions, he explains, removes much of the inherent self-consciousness from working out.

"You forget to wonder if you look fat or dumb doing an exercise when a trainer dressed in a

superhero cape is telling you to grind out reps," says Fisher. "Plus, if you make the training a fun experience, you'll not only be more likely to stick to your program but also enjoy the process more and get more out of it."

See Fisher's tips on the next page to refresh your workouts, pack on muscle, and always perform at your peak. No feather boa required.

MOBILITY MAGIC

BOOST YOUR STRENGTH AND POWER BY ACTING LIKE A BABY.

Problem Tight chest and rounded shoulders

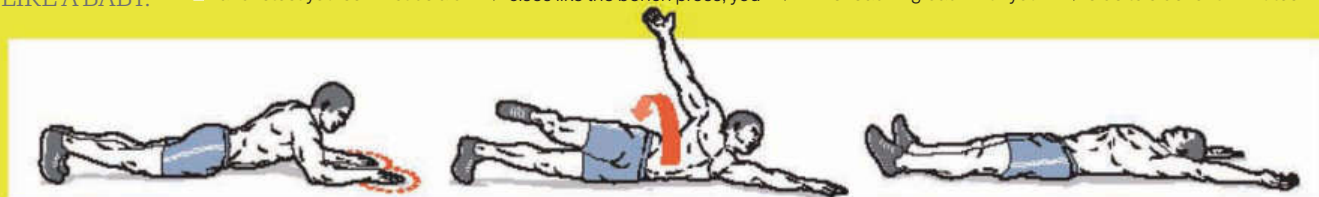
Solution Baby roll
Test your posture: Stand with your heels, butt, and shoulder blades against a wall. Take note of the other points on your body that make contact. Now do the baby roll exercise shown below and retest yourself. Notice a dif-

ference? "Most men find that their head now touches the wall. That's a sign of less tension throughout the chest and upper spine," says strength and conditioning coach Steve Maxwell. "By reestablishing movement patterns lost to decades of sitting, and overemphasizing exercises like the bench press, you

reset your vestibular system, which tells your body where it is in space." The result is greater mobility, which is key to unlocking strength. Do this exercise before every workout.

Directions Lie on your stomach with your arms bent and forearms on the floor. Look left while reaching back with your

right arm, and roll onto your back. (Try not to push off with your legs.) Now, still looking left, reach across your body with your left arm and roll onto your stomach. Roll back to where you started. Repeat in the other direction, this time looking right. Keep rolling from side to side for 3 minutes.



Follow the Law of Opposites

“Charlie Weingroff, former director of physical performance and resiliency for the U.S. Marines, once said, ‘Yogis should do powerlifting, and powerlifters should do yoga,’” says Fisher. “What’s most unlike your current program will help you most.”

► **YOUR MOVE** Think of yourself as a powerlifter. Adding yoga or cardio to your routine will help speed recovery and boost muscle growth, Fisher says.

Find Your Best Fit

Many guys just join whatever gym is closest. “That’s often a mistake,” says Fisher. It doesn’t matter how convenient a gym is—if you don’t feel comfortable, exercising will always be a chore.

► **YOUR MOVE** Find a training ground that inspires you. “You’ll get in better workouts that lead to real progress,” says Fisher. Visit MensHealth.com/fitness/find-perfect-gym.

Take Five to Thrive

For MFF’s top program, Snatched, you must establish a reason to work out, exercise five days a week, sleep seven to nine hours a night, drink 96 ounces of H₂O a day, and consume a gram of protein per pound of your body weight every day.

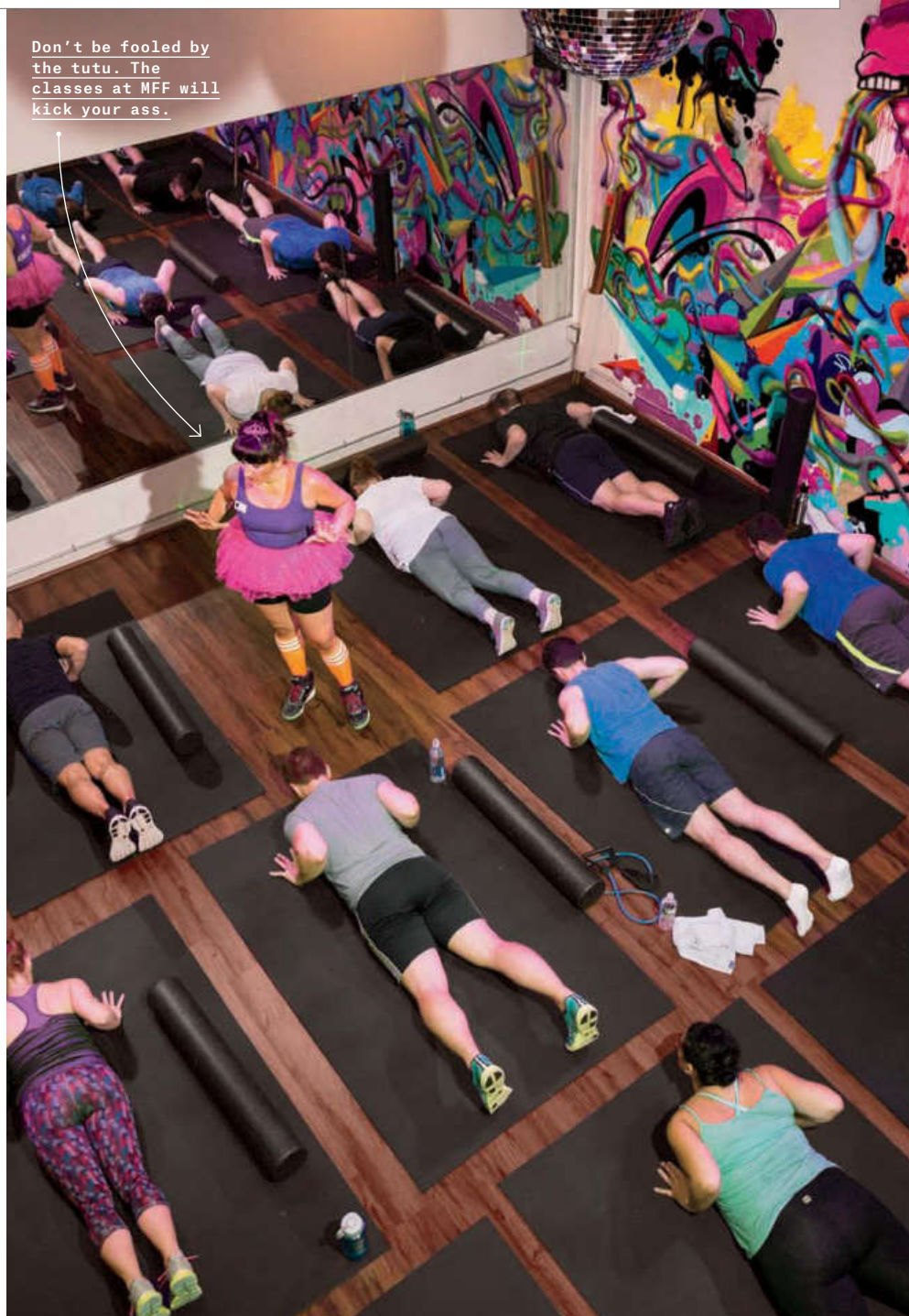
► **YOUR MOVE** Catch the Snatched spirit. “I promise that if you do those five things, you will be snatched [dancer slang for ripped],” says Fisher.

Show Yourself a Good Time

Working out by its very nature is tough, says Fisher. Or at least it should be. So while it’s important to focus on improving, you also need to celebrate how far you’ve come.

► **YOUR MOVE** When you nail a goal or set a new PR, reward yourself. “A massive cheat meal, a day off, a big night out—these celebrations are revitalizing and fuel more progress,” says Fisher.

Don’t be fooled by the tutu. The classes at MFF will kick your ass.



**INSIDER
TRAINING**
By David Jack

Where should I look when I squat?

RICHARD, ATLANTA, GA

Your body follows your head, so if you look up, you’ll hyperextend your back. Look down and you’ll round it. Look to the side and you’ll strain your neck. Here’s the key: Keep your head in line with your spine. To

do that, your eyes will likely settle on a point on the floor about 10 feet in front of you. But focus less on where you look and more on keeping your head and torso straight. That way you reduce the load on your back, optimize muscle recruitment, and generate maximum power.

What’s the secret to big, bold shoulders?

LOUIE, BOSTON, MA

Good genes. But even if you don’t have bodybuilder DNA, you can still reach your potential with these six tips: (1) Do both targeted exercises, like the overhead press, and global movements, like the farmer’s

walk. (2) Use free weights, not machines. (3) Lift with proper form to preserve your joints. (4) Work your entire shoulder girdle, not just your front and middle delts like most guys do. (5) Mix in high-rep sets of isolation moves, like lateral raises and face pulls. (6) Be consistent.



David Jack is the owner of ActivLab in Phoenix. Follow him on Twitter: @davidjack1

The Belly-Fat Inferno

PACKED GYM? NO PROBLEM. ALL YOU NEED IS A PAIR OF KETTLEBELLS FOR THIS 22-MINUTE SWEAT SESSION.

BEST
NEW
WORKOUT
October
2015



DESIGNED BY
Mark Fisher, C.P.T.,
co-owner of Mark
Fisher Fitness

BEST FOR
Revvng your metab-
olism, building lean
muscle, and boosting
your total-body power
and endurance

EQUIPMENT
Two kettlebells
CALORIES BURNED
331*
TIME
22 minutes

*As measured by a fit 6'2", 185 lb man
using a Polar M400 heart rate monitor

DIRECTIONS

For the next month, replace one of your weekly workouts with this routine from Mark Fisher's popular Snatched program. Perform the moves as a circuit in the order shown, moving from one immediately to the next and resting for 30 to 60 seconds only after the third and sixth moves (the split jump and the kettlebell row). Once you've completed all 9 exercises, rest for 60 seconds and then begin the circuit again. Do 3 circuits total.

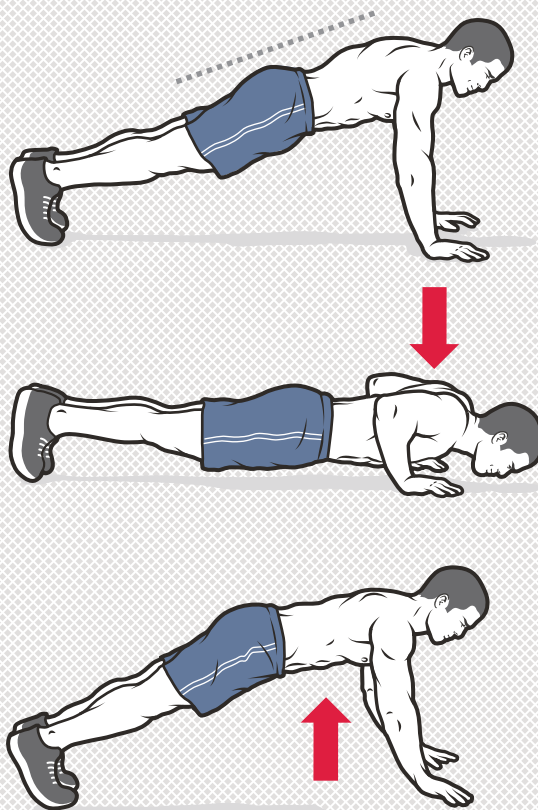
1/ Double Kettlebell Swing

Place two kettlebells on the floor in front of you. Stand with your feet slightly beyond shoulder width, push your hips back, and grab the kettlebells' handles. "Hike" the kettlebells between your legs, and then thrust your hips forward as you swing both up to chest level. Swing them back between your legs. That's 1 rep; continue without pausing. **Reps: 20**



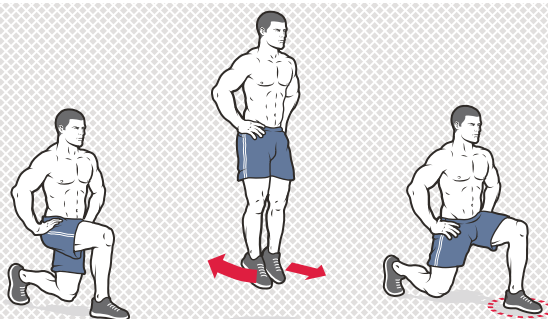
2/ Explosive Pushup

Assume a pushup position with your feet together, arms straight, and hands slightly wider than your shoulders. Lower your body and then push up with enough force for your hands to leave the floor. Land and repeat. **Reps: 12**



3/ Split Jump

Assume a staggered stance with your right foot forward. Lower your body into a lunge; then jump up, scissor-kicking your legs in the air. Land with your left foot forward and drop back into a lunge. That's 1 rep. Alternate legs each rep. **Reps: 12 per leg**



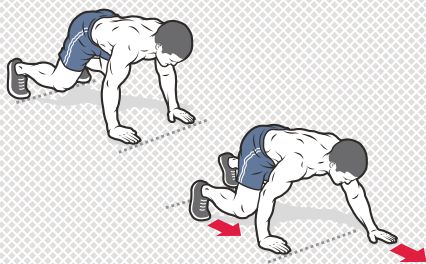
4/ Goblet Squat

Stand with your feet slightly beyond shoulder width and hold a kettlebell by the sides of its handle in front of your chest. Push your hips back, bend your knees, and lower your body as far as you can; your elbows should brush the insides of your knees. Pause, and stand back up. **Reps: 10**



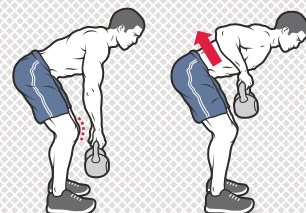
5/ Bear Crawl

Get down on all fours with your hips up and knees bent approximately 90 degrees. (Only your hands and toes should touch the floor.) Crawl forward, moving your opposite hands and feet in unison (left hand and right foot, right hand and left foot). **Time: 30 seconds**



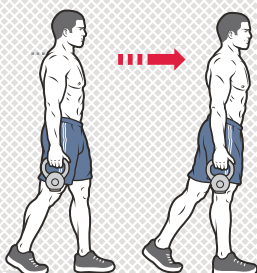
6/ Kettlebell Row

Grab two kettlebells, push your hips back, bend your knees slightly, and lower your torso toward the floor. Let the weights hang at arm's length. Row the weights to the sides of your torso. Pause, and lower them back to the starting position. **Reps: 12**



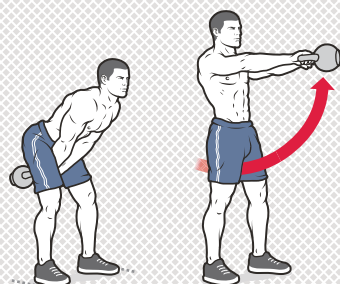
7/ Kettlebell Suitcase Carry

Hold a kettlebell in your right hand by your side like a suitcase, keeping your shoulders square and torso upright. Maintain this posture as you walk forward for the prescribed distance. Switch hands, turn around, and walk back. **Distance: 20 steps (each way)**



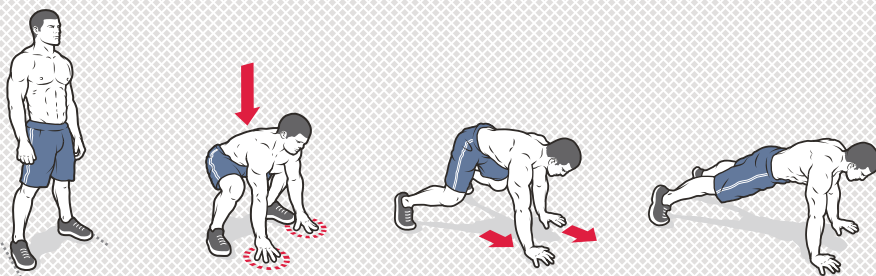
8/ Kettlebell Swing

Place a kettlebell on the floor in front of you. Push your hips back and grab the handle in both hands. "Hike" the weight between your legs; then thrust your hips forward and swing it up to chest level. Swing it back between your legs. That's 1 rep; continue without pausing. **Reps: 20**



9/ Reverse Burpee

Stand with your feet shoulder-width apart. Now squat and place your hands on the floor. Instead of kicking your legs back (as you'd do in a conventional burpee), "walk" your hands forward until you're in a pushup position. (Optional: Do a pushup.) Pause, and reverse the move to return to the starting position. **Reps: 8**



**AMPLIFY
YOUR GAINS
3 FAST WAYS
TO BUILD
MORE MUSCLE.**



ADJUST YOUR REST AS YOU GO
Tailor it to your fatigue level. "Start with brief rests and make them longer as you go," says trainer Mark Fisher.



LEARN TO IMPROVISE
Kettlebells taken? Grab dumbbells instead. You can use them for all the weighted moves in this workout, Fisher says.



COOL DOWN THE RIGHT WAY
Tough workouts tax your nervous system. "Foam-rolling and meditation can speed recovery," says Fisher.

A close-up photograph of a sand sculpture on a beach. The sculpture depicts a human torso with a very defined six-pack. The sand is wet, and there is a large splash of water in the lower right corner, creating a dynamic and refreshing feel. The background is a textured surface of sand.

**Fire up
your core**

BY
TREVOR THIEME, C.S.C.S.

PHOTOGRAPH BY
TRAVIS RATHBONE

THE SIX-PACK SANDBLASTER

Sure, there's still a tinge of heat in the air. But beach season is right around the corner. Shed fat, build strength, and sculpt a stomach you're proud to show shirtless—fast!—with this four-week, total-body muscle plan.

► POWER POINTS: FRONT SQUAT

Most guys avoid the front squat. "Holding a bar across the front of your shoulders is more difficult than holding it across your upper back," says Todd Durkin, C.S.C.S. Here's why you should do it anyway: You'll put less stress on your spine and more emphasis on your quads. And since it's harder than a regular barbell squat, you can achieve the same muscle-building results with less weight. "That will also allow you to focus more on proper form," says Durkin. Here are four key steps to mastering it.



Don't Grip the Bar

The bar should rest on just three fingers of each hand. "Your shoulders should support the weight, not your hands," says Durkin.



Raise Your Elbows

Keep your upper arms parallel to the floor, elbows slightly inward. "That keeps the bar in place and reduces stress on your wrists," says Durkin.



Sit Into the Move

Push your hips back and squat between your knees. "Bending or shifting your weight forward will stress your knees," says Durkin.



Point Your Toes Out

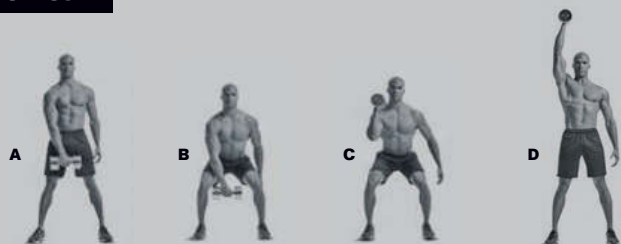
And keep your knees in line with them as you lower your body. "Letting your knees rotate inward increases your risk of injury," says Durkin.

The Six-Pack Sandblaster

It doesn't matter whether you're a seasoned lifter or a s will kick your butt. We're also willing to bet they'll suc divided into two phases—metabolic and strength—to h C.S.C.S., owner of Fitness Quest 10 in California. And s muscle imbalances, and boost mobility. The result: a m

WORKOUT A

METABOLIC PHASE



1 / Dumbbell Single-Arm Clean and Press

Stand with your feet shoulder-width apart and hold a dumbbell in your right hand in front of your hips [A]. Push your hips back, bend your knees [B], and raise up explosively, pulling the weight up your body. When it reaches your chest, dip under it and "catch" it at your shoulder [C]. Press it above your shoulder [D]. Do 5 reps. Add 5 pounds each week.



2 / Burpee to Broad Jump

Stand with your feet shoulder-width apart and your arms at your sides [A]. Push your hips back and lower your body into a deep squat, placing your hands on the floor [B]. Kick your legs back into a pushup position and do a pushup [C]. Return to a squat and then jump forward as far as you can [D]. Do 10 reps. Add 2 reps each week.

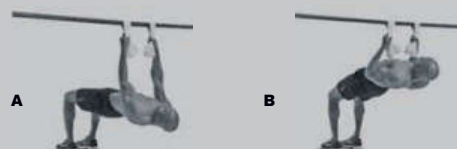
WORKOUT B

METABOLIC PHASE



1 / Medicine Ball Elevated Pushup

Assume a pushup position with your hands on two medium-size medicine balls and your feet on a bench or step that's about 12 inches high. Your body should be straight from head to ankles [A]. Brace your core and lower your chest until it's even with the balls [B]. Push back up to the starting position and repeat. Do 10 reps. Add 2 reps each week.

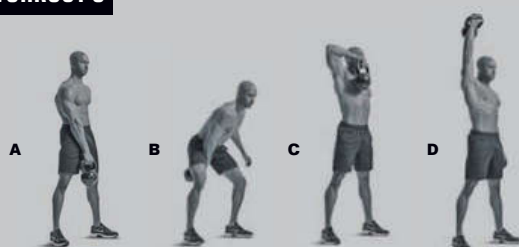


2 / Inverted Towel Row

Set a bar to waist height and drape two towels over it so they're about shoulder-width apart. Grab the towels close to the bar and hang at arm's length with your shoulders directly below your hands. Bend your knees so your feet are flat on the floor [A]. Lift your chest to the bar, squeezing your shoulder blades together [B]. Do 10 reps. Add 5 reps each week.

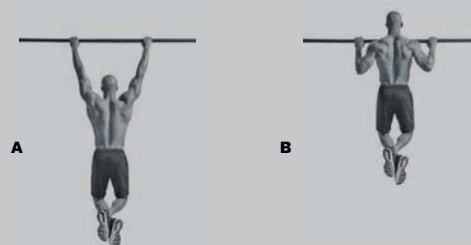
WORKOUT C

METABOLIC PHASE



1 / Kettlebell Single-Arm Snatch

Hold a kettlebell in your right hand between your thighs, feet just beyond shoulder width [A]. Swing the bell between your legs [B] and then raise up explosively, pulling the weight up your body [C]. When it reaches chest level, punch your palm toward the ceiling so the bell flips over your forearm [D]. Do 10 reps, switch arms, and repeat. Add 5 pounds each week.



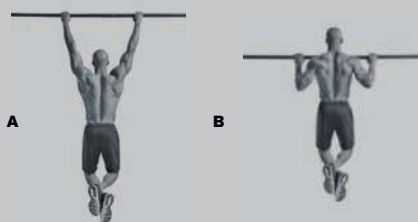
2 / Pullup

Grab a pullup bar with an overhand grip that's slightly beyond shoulder width and assume a dead hang, with your knees bent and your ankles crossed behind you [A]. Pull your chest to the bar, squeezing your shoulder blades together [B]. Pause, and then slowly lower yourself back to a dead hang. Do as many reps as you can.

strength-training rookie—the following workouts proceed where others have failed you. “Each one is help you tackle two goals at once,” says Todd Durkin, “you sizzle and chisel, you’ll also build power, erase more athletic, beach-ready body in 30 days or less.

DIRECTIONS Do each workout once a week, resting a day between them. Warm up with a 5- to 10-minute run and 20 hip swings (swing each leg side to side in front of you 10 times). Do the metabolic phase in each workout as a circuit, moving from one exercise to the next without rest. Do 3 circuits for Workout A and 4 circuits for Workouts B and C. Then rest 3 minutes and finish with the strength phase.

STRENGTH PHASE



3 / Pullup

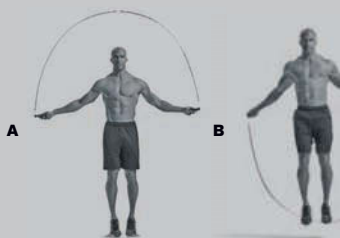
Grab a pullup bar with an overhand grip that's slightly beyond shoulder width and hang at arm's length with your knees bent and ankles crossed behind you (a position known as a dead hang) [A]. Pull your chest to the bar, squeezing your shoulder blades together [B]. Pause, and then slowly lower yourself back to a dead hang. Do as many reps as you can.



4 / Front Squat

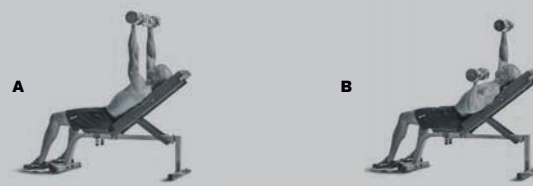
Grab a barbell with an overhand grip that's just beyond shoulder width and raise your upper arms until they're parallel to the floor. Let the bar roll back so it's resting on just your fingertips and the front of your shoulders [A]. Squat until your thighs are parallel to the floor [B]. Do 4 sets of 5 reps. Rest 1 to 2 minutes between sets. Add 5 pounds each week.

STRENGTH PHASE



3 / Jump Rope

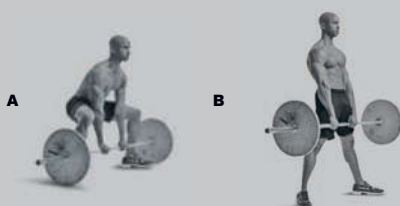
Hold the handles of a jump rope and stand with your arms at your sides and the rope resting on the floor behind you. Swing it in an arc over your head [A] and then down toward your feet, jumping over it by pushing off the floor with the balls of your feet [B]. Land softly, never letting your heels touch down. Do 50 reps. Add 25 reps each week.



4 / Dumbbell Alternating Incline Bench Press

Set an adjustable bench to 45 degrees and lie on your back, holding two dumbbells above your shoulders [A]. Lower the left dumbbell to the side of your chest [B]. Press it up to the starting position and repeat with the right dumbbell. Continue alternating. Do 4 sets of 8 reps per arm. Rest 1 to 2 minutes between sets. Add 5 pounds per dumbbell each week.

STRENGTH PHASE



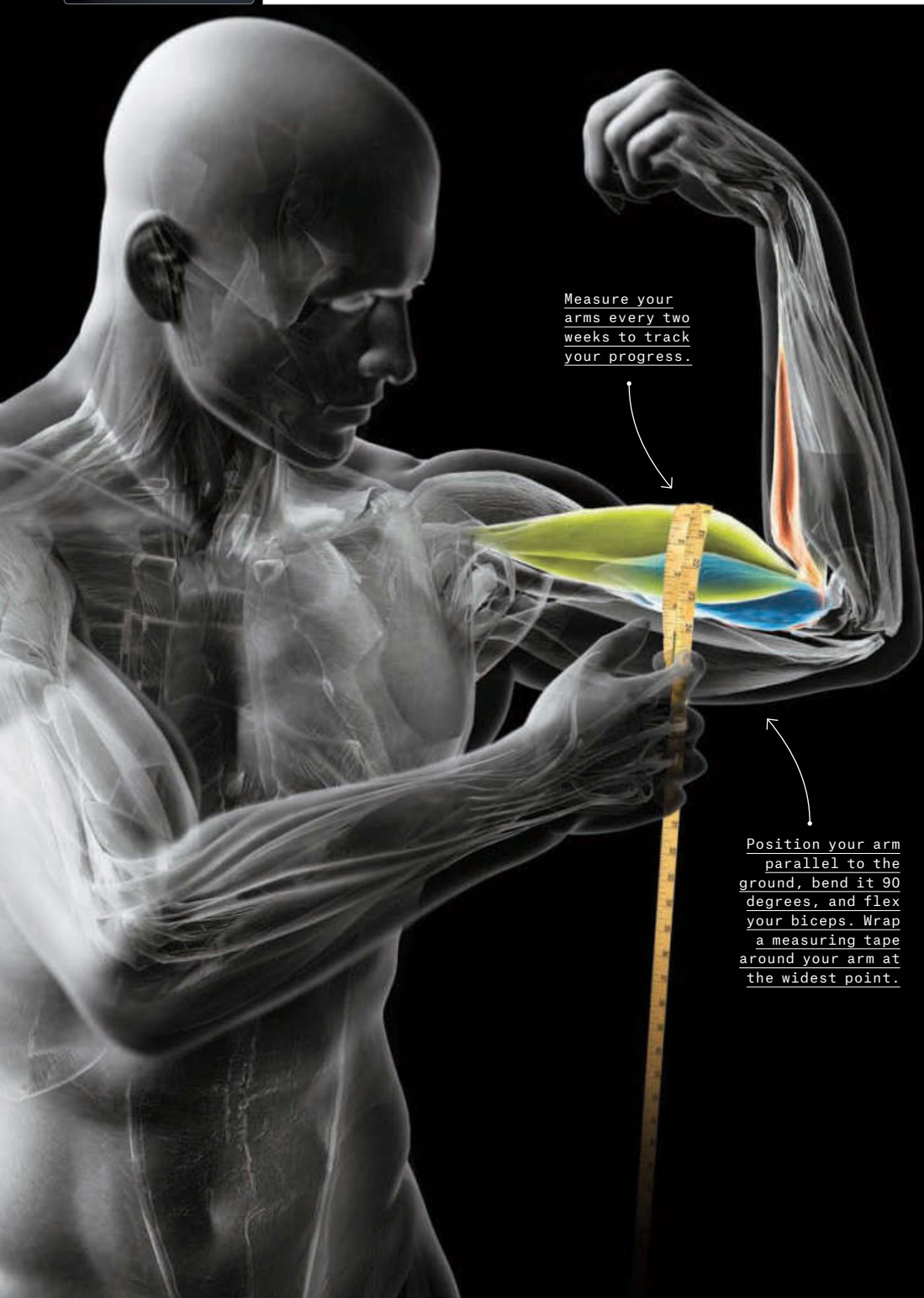
3 / Sumo Deadlift

Load a barbell and roll it against your shins with your feet twice shoulder-width apart and toes pointing out. Grab it with an overhand grip, hands 6 inches apart [A]. Pull your torso up, thrust your hips forward, and raise your upper body [B]. Do 4 sets of 5 reps. After each set, perform a jump complex (see right), then rest 1 to 2 minutes. Add 10 pounds each week.



4 / Jump Complex

Standing with your feet hip-width apart, push your hips back, bend your knees [A], and then jump as high as you can [B]. Land as softly as you can on the balls of your feet, then lower your heels to the floor. Repeat 3 times and then jump forward as far as you can 3 times [C]. Add one vertical and one forward jump each week.



3 Steps to Bigger Biceps

Stretch the limits of your shirtsleeves by learning a completely new way to sculpt your arms. BY TREVOR THIEME, C.S.C.S.

WITHOUT EVEN LOOKING AT YOU, we're fairly certain that your arms aren't as big as they could be. How can we be so sure? Because nearly all men—seasoned lifters included—make one critical error when working their biceps. “Most guys approach their sets backward,” says Chad Waterbury, M.S., a physiologist in Santa Monica, California, and the author of *Huge in a Hurry*. “They lift so that the hardest part comes at the end of the set. But to hit your largest muscle fibres, which have the greatest growth potential, the toughest part needs to come first.”

The Science of Swole

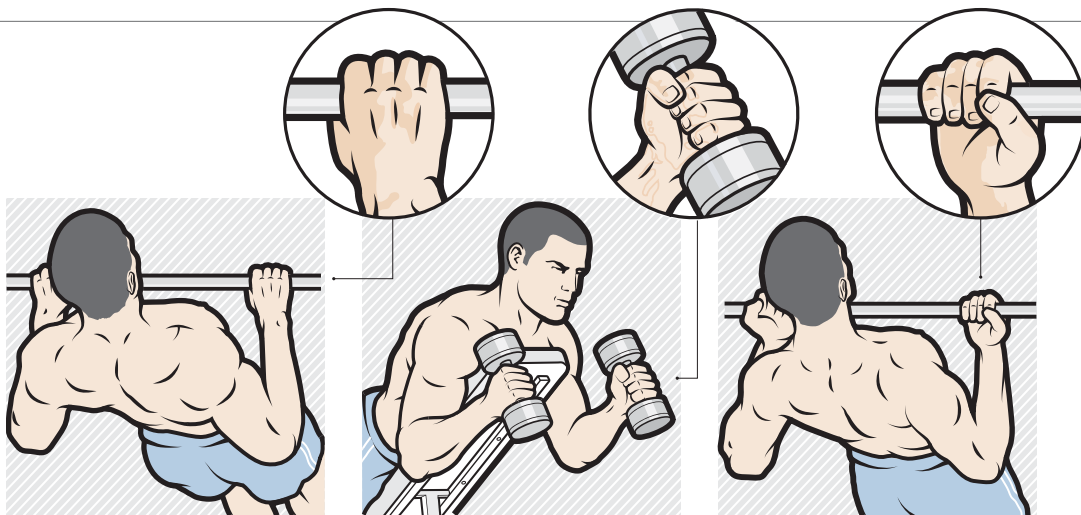
Whenever you contract your biceps—whether you're lifting groceries or curling iron—your muscle fibers are recruited in an orderly fashion from smallest (type I) to largest (types IIa and IIb). “And those big type II fibres respond only to high levels of force,” says Waterbury. “So if you're lifting slow and steady—as you do when you fatigue at the end of a set—all you do is exhaust your smaller fibres.” Your larger, more powerful ones never come into play.

The Big-Arms Breakthrough

“Front-load your sets, exerting maximal force when your fibres are fresh,” says Waterbury. You can apply this principle to boost growth in any muscle, but you have to tailor it to your target. For biceps, high-tension isometric exercises work best, he says.

In practice, that means starting each set by holding the hardest part of the move—the top of an inverted row, for example—and then banging out a handful of regular reps. Waterbury knows that hitting “pause” bucks conventional wisdom—that to grow big you have to lift big. His reply: “Rings gymnasts have the biggest biceps on the planet, and holds are all they do.”

Try it by adding one of the moves on the next page to each of your weekly workouts for six weeks. “You'll hit your biceps,” he says, “and also your brachialis [beneath your biceps] and your brachioradialis [in your forearms], optimising your overall growth potential.”



Monday/ Inverted Row (overhand)

► MUSCLES TARGETED *biceps brachii* and *brachialis*

Secure a bar at waist height and hang below it at arm's length using an overhand, shoulder-width grip. Your body should be straight from head to ankles and your heels on the floor. Pull your shoulder blades back, and then pull with your arms to lift your chest to the bar. Hold this position for 5 seconds, squeezing your biceps as hard as you can. (Imagine you're trying to crush the bar between your hands, but don't actually move your hands.) Now do 5 fast reps. Rest 10 seconds and repeat; this time hold the top position for 4 seconds and then do 4 reps. Rest for 10 seconds again; then hold for 3 seconds and do 3 reps. That's 1 set. Do 3 sets total, resting 3 minutes between them.

Wednesday/ Decline Hammer Curl

► MUSCLES TARGETED *biceps brachii* and *brachioradialis*

Grab a pair of dumbbells and lie with your chest against a bench that's set to a 70-degree incline. Let the dumbbells hang at arm's length with your palms facing each other. Without moving your upper arms, bend your elbows and curl the dumbbells as close to your shoulders as you can. Hold this position for 5 seconds, squeezing your biceps as hard as possible. Now perform 5 fast reps. Rest 10 seconds and repeat, this time holding the top position for 4 seconds and then doing 4 reps. Rest for 10 seconds again; then hold for 3 seconds and do 3 reps. That's 1 set. Complete a total of 3 sets, resting for 3 minutes between them.

Friday/ Inverted Row (underhand)

► MUSCLES TARGETED *biceps brachii*

Secure a bar at waist height and hang below it at arm's length using an underhand, shoulder-width grip. Your body should be straight from head to ankles and your heels on the floor. Pull your shoulder blades back, and then pull with your arms to lift your chest to the bar. Hold for 5 seconds, squeezing your biceps as hard as possible. (Again, imagine you're trying to crush the bar between your hands, but don't actually move your hands.) Now do 5 fast reps. Rest 10 seconds and repeat; this time hold the top position for 4 seconds and then perform 4 reps. Rest for 10 seconds again; then hold for 3 seconds and do 3 reps. That's 1 set. Complete a total of 3 sets, resting for 3 minutes between them.

WORK BOTH SIDES
IF YOU WANT BIG GUNS, YOU CAN'T FORGET YOUR TRICEPS.

They account for more than two-thirds of your upper-arm mass. "Each triceps muscle has three parts, or heads," says Tyler English, author of *The Natural Bodybuilding Bible*. "The close-grip bench press hits them all." Place your hands 8 to 12 inches apart on the bar. Do 3 sets of 8 reps once or twice a week.

"MOST GUYS TEND TO APPROACH THEIR SETS BACKWARD, WITH THE HARD PART AT THE END. BUT TO HIT YOUR LARGEST MUSCLE FIBRES, IT NEEDS TO COME FIRST."

MAXIMIZE YOUR MUSCLE

RECRUIT LARGER FIBERS, AND YOU'LL GROW BIGGER FASTER.

1/PARTIAL ACTIVATION
Most traditional set-and-rep schemes (3 sets of 10 slow reps, say) engage only the smaller, endurance-focused fibres concentrated near the centre of the biceps.

2/FULL ACTIVATION
Adding an isometric hold to the start of each set generates enough force to engage your full spectrum of fibres, including the large type II fibres found on the periphery of the biceps.

THE HEALTH SNOB'S GUIDE TO BURGERS

Grab a happier meal without the side-order of body rolls, then supersize the taste with MH's double-XL manual to man's favourite cheat food

01

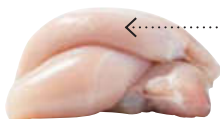
MEAT YOUR MATCH

The surge in gourmet burger joints means a McFlatPatty drive-thru is less tempting than ever. Apply the same principles to your own grill and you can turn DIY cheat meals into muscle manna. "The first rule: always use the best meat you can afford," says Patty & Bun operations manager Tom Monaghan. That means no 2-for-1 lean mince deals; low-fat equals gritty patties (20% fat is ideal). Calorie-fearing? Save your burger for after legs day, Chuck.



I BEEF

It's all in the cut. The Soho House group's famous Dirty Burger uses rump and sirloin, says founder Nick Jones. Bone marrow adds juiciness and immune-supporting glycine. Stock up at your local butcher.



II CHICKEN

Take a hiatus from grilled cow with this white-meat protein hit. Brine the bird for 12hr, says Honest Burger's Tom Barton. Drench in buttermilk, coat in breadcrumbs and spice, and deep fry. That's a *real* cheat meal.



III LAMB

Leg cuts offer the best flavour and serve you a below-the-belt boost of fertility-aiding carnitine. Opt for a medium grind, says Jones. "And don't squash it too hard – the meat should still crumble in your mouth."



IV VENISON

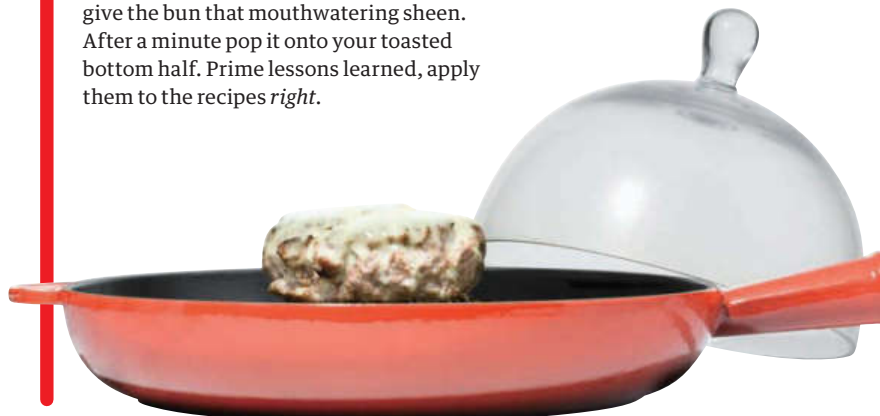
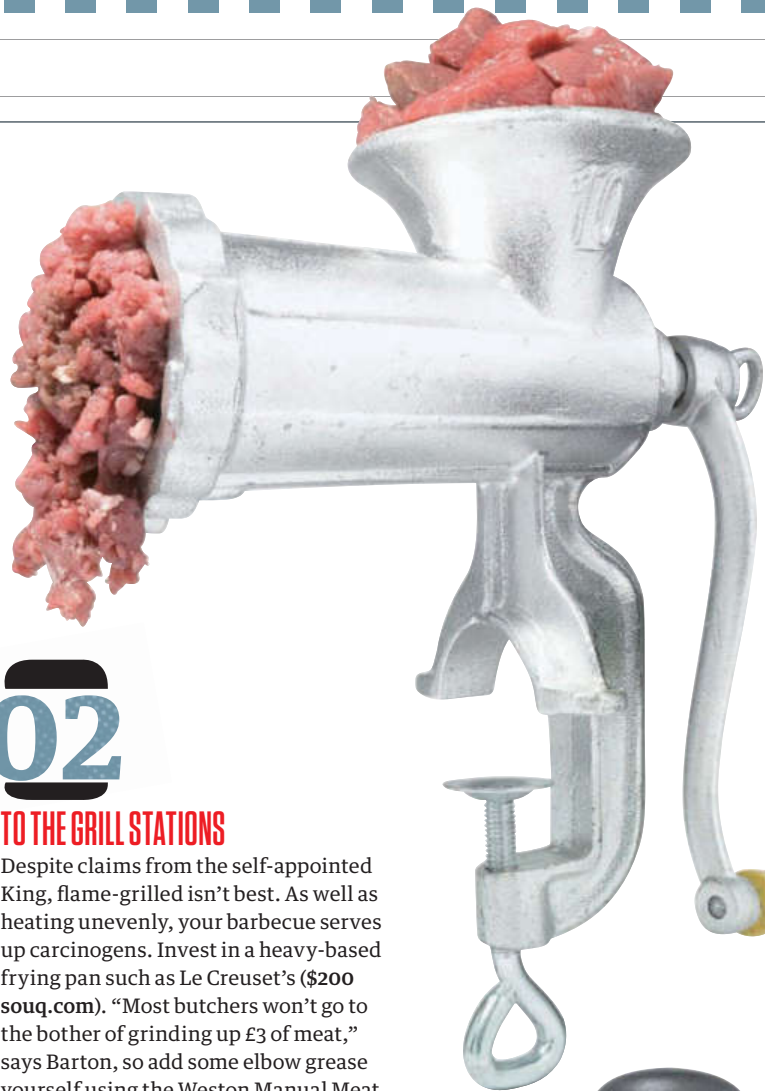
Stuck in a beef rut? Try deer. The meat is very lean, so bind with beef fat in a 3:1 ratio. Then cook the patties immediately; salt draws out moisture, says Barton. Which is also why you only season on the grill.

02

TO THE GRILL STATIONS

Despite claims from the self-appointed King, flame-grilled isn't best. As well as heating unevenly, your barbecue serves up carcinogens. Invest in a heavy-based frying pan such as Le Creuset's (\$200 souq.com). "Most butchers won't go to the bother of grinding up £3 of meat," says Barton, so add some elbow grease yourself using the Weston Manual Meat Grinder (\$30 souq.com). And while hand-shaped patties may look rustic, they cook erratically. Use a burger instead (\$11 souq.com).

Gourmet results come from treating your patty like steak. "Heat the pan until smoking," says Barton. No need for oil – the fat will melt out and stop the burger sticking. Tis the season to, well, season. Add your salt now. After three minutes, flip the patty. Now comes the pro trick: lay cheese on top, cover with the bun top then drip water around the outside. As it hisses, cover with a Utopia Glass Cloche (\$20 nobleexpress.co.uk); the steam will give the bun that mouthwatering sheen. After a minute pop it onto your toasted bottom half. Prime lessons learned, apply them to the recipes *right*.



03

THE HEALTH SAVER MENU

Cooking your burger on a high heat will have given it a nicely caramelised crust while keeping it juicy on the inside. Perfection attained, watch you don't fall down at the assembly stage.

Overloading your burger is a sin, says Barton. Get too complicated and you risk masking the flavour of prime meat as well as undermining the structural integrity of the bun. "All you really want is salty meat, sweet relish and the richness of cheese," says Barton. "Pickles often end up on the McDonald's floor, but in a proper burger the vinegar cuts through the richness." Lettuce leaves are fine, but avoid edging toward the full Subway-sandwich experience. Finally, swap your multipack of white rolls for a buttery brioche bun.



I MULTI-VITAMIN LAMB BURGER

INGREDIENTS

- Lamb mince, 150g
- Coriander, handful
- A red chilli, sliced
- Courgette, ¼, sliced
- Pickled aubergine
- Cumin seeds, 1tsp
- Mayo, 1tsp

METHOD

Mix the meat with finely chopped coriander and chilli and shape into patties. The herb fights harmful bacteria, so you can gun for pink. Fry the courgette, then the burger. Mix mayo and cumin, then smear it on your bun for extra antioxidants.



II BIG LIFTS BEEF BURGER

INGREDIENTS

- Beef mince, 150g
- Beef bacon, rasher
- Red onion relish, heaped 1tsp
- Mature cheddar cheese, slice
- Gherkins, sliced

METHOD

While your patty is sizzling, grill the beef bacon until it's shatter-in-the-mouth crisp. The meat offers phosphorous for stronger bones, while quercetin in your relish curbs inflammation. Bite into a burger that will painproof your workouts.



III BAMBI'S LEGS DAY BURGER

INGREDIENTS

- Venison, 100g
- Beef, 35g
- Onion, ½, sliced
- Butter, big slice
- Stilton, sliced
- Red pepper, sliced and grilled

METHOD

Grind your meat, shape and cook. Venison's creatine is ideal when you're supersizing. Brown the onion in butter, then add it to your patty with stilton, which provides casein for muscle fuel. Sear the pepper with a blowtorch while you cloche.



IV POST-GYM ZINGER

INGREDIENTS

- A chicken breast
- Flour, 140g
- Paprika, 1tsp
- Chilli powder, 1tsp
- Peanut oil, 250ml
- Mustard, 1tsp
- Mayo, 1tsp

METHOD

Prep the chicken as stated (left), coating in flour and spice. Bring the oil to 180°C – its high smoke point reduces carcinogens while its fats support heart health. Sizzle for 6min. Up your mayo's anti-cancer cred with mustard. Spread liberally.

RELISH THESE

Ketchup is just red sugar.



BP-CUTTING MUSTARD

- Mustard seeds, 3tsp
- Dark beer, ½ pint
- Honey, 2tsp
- Turmeric, pinch
- Cider vinegar, 1tbsp



FAT-MELTING SAUCE

- Passata, ½ jar
- Balsamic vinegar, 4tbsp
- Apple, chopped
- Chilli powder, 1tsp
- Worcestershire sauce, 1tbsp



ANTI-CANCER RELISH

- Olive oil, 1tbsp
- Cumin, 2tsp
- Chopped tomatoes, can
- Garlic & onion, 1tbsp
- Red chilli, chopped



Light speed

The UK's favourite supercar destroyer, the Lotus Elise S, has arrived in the Middle East.

BY CARLIN GERBICH

THERE ARE TWO TRAINS OF THOUGHT WHEN IT COMES TO PERFORMANCE

motoring. One path to ultimate speed is a honking great engine with stupendous power and a heavy right foot. It certainly works in the case of the 707-horsepower Dodge Challenger SRT Hellcat which hits 100 km/h from standing in just 3.9 seconds and will shred its tyres almost as quickly.

But there is another line of thought that, at first, doesn't seem as exciting but will make sense to anyone who has ever stepped on the scales to weigh themselves and had to bend over to see the numbers.

Lightweight performance has always been central to Lotus road and race cars because removing weight is far easier and cheaper than boosting engine performance. Lighter components and a svelte curb-weight also mean you don't need to run beefier brakes, weighty suspension or stupendous power levels to deal with bulkier machines.

Lotus founder Colin Chapman was famous for pushing his engineers to make the most of every component in his F1 cars. It was Chapman's team that first used the engine as a stress-bearing member, bolting the cockpit to one end and the rear suspension and gearbox to the other, paving the way for the format of almost every F1 car since the late 1960s. Lotus still thinks that way, and while the current Elise S is both a million miles away from the formative years of the company's F1 cars and the first generation Elise released in 1996, the company's approach to lightweight design is apparent everywhere in the car.

The chassis tub is made from aluminium which is riveted and bonded (read, glued) together to provide a rigid platform from which to hang the mid-mounted 1.8-litre 217-horsepower supercharged engine and



ENGINE: 1.8-litre supercharged inline four-cylinder
TRANSMISSION: Six-speed manual.
POWER: 217 hp
TORQUE: 250 Nm
0-100 km/h: 4.2 seconds
TOP SPEED: 233 km/h
PRICE (base): AED215,000

the front and rear suspension. The car is clothed in a glass-fibre body which is strung between the chassis hard-points and shrink wrapped around them to provide a smooth, sinuous and rather pleasant aerodynamic shape.

Once you've posted yourself through the mail slot doors (removing the roof makes this a lot easier), you'll find a pleasant but reasonably sparse interior. The original Elise was stripped of the kinds of every day niceties that 90s buyers had come to expect, but this one has carpets, a cup holder, air conditioning, a bottle holder and both a 12v socket for charging things and a USB port for mobile devices. It also has a third pedal and a lever for selecting gears, something of a rarity these days.

Brimmed with fuel, the Elise S weighs a paltry 924 kg which, if we're comparing apples and oranges, is less than half that of the aforementioned SRT Hellcat. It won't hit 100 km/h as quickly (4.2 seconds) but the car doesn't tax its tyres, suspension or power reserves as much when on the limit. Heavier cars tend to chew through things like brake pads and discs when pushed hard, and the effects of lateral and longitudinal weight transfer are more pronounced. The Elise suffers none of that, cornering at speeds that make your sides hurt and your head spin. Point-to-point over a twisty mountain pass, the Elise S is in a world of its own. Precise steering and instant power delivery make every switchback hairpin a joy.

/ PORSCHE CAYMAN



THE MACHINE

The Cayman was intended as an affordable step into Porsche ownership but had grown to become a viable performance alternative to the all-conquering 911.

PRICE RANGE

The Cayman starts at AED208,900, the S is AED230,900 while the GTS and GT4 models are AED260,000 and AED300,500.

BEST FOR

Getting under the skin of 911 drivers. The Cayman is all things to everyone, and 911 drivers know it.

WHY SHOULD I BUY IT?

It's all you ever need. The Stuttgart shield and a bulletproof engine with up to 385 horsepower - more than the entry level 911, for far less.

GET IT IF

You really want a 911 but can't quite stretch to it. Also available in manual, if that kind of thing matters to you.

/ TOYOTA 86



THE MACHINE

Toyota's only rear sports car in ages, and the only thing in the current stable that comes anywhere near close to exciting for driving fans

PRICE RANGE

The GTX comes with a six-speed manual gearbox and a price tag of AED104,900. The auto VTX is AED124,900

BEST FOR

Its attitude. With just 200 horsepower, it won't set the world alight, but it has just enough poke to be fun without the danger.

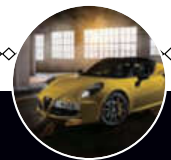
WHY SHOULD I BUY IT?

The pool of rear-wheel drive cars with manual gearboxes is drying up quickly. The 86 and its rivals are the last remnants of the most exciting period in driving history.

GET IT IF

You're bored with front-wheel drive Euro boxes but don't want to sell an arm and a leg to get something exciting.

/ ALFA ROMEO 4C



THE MACHINE

Alfa Romeo took the Elise's mid-engined, two seat format and forged it from carbon fibre. They placed a 1.7-litre turbo charged engine behind your right ear and handed it 237 hp.

PRICE RANGE

At AED330,000, the 4C is pricey given that it comes without power steering or space for luggage.

BEST FOR

Its Italian verve and flair. It's quick and very pretty, condensing supercar looks into a diminutive package.

WHY SHOULD I BUY IT?

Just look at it. Sure, it's not without its shortcomings but most of them melt away the minute you lay eyes on it.

GET IT IF

You're prepared for a little inconvenience. Such is the price of vanity.



STYLISH

Men's Health
MIDDLE EAST

THOMPSON LAKE WOOL BRACES CHINO, AED445

Premium wheat-coloured braces and the woven straps nod to Timberland's famous wheat boot, while the wool tweed fabric offers comfort and versatility.



THOMPSON LAKE CORDUROY 5-POCKET, AED395

Black cords are ideal for dressing up or down any look. Made of the darkest black corduroy, these trousers will add texture to an outfit and diversity to an entire winter wardrobe.

Time for a cool change

Need a little insulation in your travel wardrobe? We've got just the thing.

▶ **WE'RE USED TO THE HEAT, SO WHEN THE TEMP** drops a few degrees, Middle East dwellers certainly feel it. It's even more apparent when you travel; the European autumn exposes any shortcomings in your wardrobe. So, if you've got a ticket to ride over the next few months, you're going to need to layer up before venturing out. We've hand-picked the best of Timberland's autumn collection, specially developed to cheat Europe's cool slide into winter.



BOLTON MOUNTAIN DOWN VEST, AED 1,495

The Bolton Mountain Down Vest is made of Harris Tweed wool. Small pockets on the front provide added convenience and a place to stuff your hands when the temperature drops.



LS PLEASANT RIVER OXFORD, AED 295

The faded look of this shirt matches perfectly with a pair of jeans or khakis. Couple with an undershirt for a casual layered look and extra insulation.



BRITTON HILL 6-INCH WARM LINED LEATHER AND FABRIC BOOT, AED 395

The Britton Hill Boot has Harris Tweed inserts in the upper, a smooth rounded toe, slight wedge heel, and premium full-grain leather and nubuck leather for a casual look and a comfortable fit.



NEWMARKET II CUP 6-INCH, AED 595

Available in wheat (pictured) or dark brown, the Newmarket II has a comfortable cupsole that cradles your heel, environmentally-friendly linings made from recycled plastic bottles and the siped outsole for tremendous traction.



WEST HAVEN WATERPROOF LEATHER CHUKKA, AED 795

If you want an alternative to a pair of dress shoes, these fit the bill. The full-grain pebble leather and copper eyelets are complimented by cap toe stitching details and an outsole fitted with a wood-style panel in the centre.



TIMBERLAND CITY PREMIUM 6" SIDE-ZIP BOOT, AED 795

The City Premium leather boots are both city-sleek and country-rugged. They look good with pretty much everything and are built with comfy anti-fatigue footbeds and convenient side zips.



SHREWSBURY PEAK DUFFLE COAT, AED 1,445

Paddington Bear arrived in London wearing a duffle coat, and you should too. The Shrewsbury Peak is waterproof and the premium lambs wool provides added warmth for the cooler days.





INSIDE EVERY MAN LIES THE PRIMAL INSTINCT TO PROTECT HIMSELF AND THOSE HE LOVES. BRAZILIAN JIU-JITSU NOT ONLY EQUIPS YOU WITH THOSE SKILLS, IT PROMOTES A HEALTHIER LIFESTYLE THROUGH GREATER STRENGTH, FLEXIBILITY, AGILITY AND STAMINA. IT'S ALSO ONE OF THE MOST REWARDING AND ENGAGING CONTACT SPORTS IN THE WORLD.



The afternoon started well enough. Vince had missed brunch, but he and his wife had made it in time for the after celebrations with friends. The venue was lively and the couple were enjoying time with friends when suddenly, Vince's wife jumped. He instinctively knew what had happened, and as he addressed the man-mountain who had groped his wife's butt, tensions rose.

Vince let it go, not because the guy was twice his size; his Jiu-Jitsu training had prepared him for that and, if it came to it, the skill to end any altercation that may follow. He was quite comfortable squaring up to someone that towered above him, assessing the situation and calmly walking through the steps to take down an opponent. But his wife was clearly upset, and she needed his attention more than her attacker did.

The second attack was even bolder and seemed to come out of spite. Both hands this time, and even harder. As his wife screamed in fear and pain, and Mr Grabby then reached for Vince, his training took over.

JIU-JITSU'S ROOTS CAN BE TRACED BACK ALMOST 4000 YEARS, BUT IT WASN'T until 1914 when Mitsuyu Maeda, a student who had studied under Jigaro Kano [1860-1938], visited Brazil that the sport started to grow internationally. Kano took the sport, which had evolved among the samurai as a way of defeating an armed opponent without using weapons, beyond its natural combat application. Kano saw that Jiu-Jitsu could also be used to educate men and women to embrace a more balanced lifestyle. He eliminated many of the dangerous combat techniques and introduced safe but intense training drills.

Maeda expanded on that, placing a greater emphasis on ground fighting and self-defense skills. It was the combination of Kano and Maeda's techniques that resonated with a teenaged Carlos Gracie back in 1916. Gracie is credited, along with his brother Helio and others, for developing the modern sport of Jiu-Jitsu, and that tradition continues today under his great grandson Carlos Jnr.

In his competition days, Gracie was never defeated in the sport, and 13 of his 21 children attained black belt status. The Gracie name remains the most recognisable in the sport today and the Gracie Barra is currently headed by Carlos Gracie Jnr, Gracie's son.

Jiu-Jitsu resonates with the UAE on many levels. Its training and sporting philosophies align closely with those of the country's focus on "healthy mind, healthy body", and it is one of the fastest growing sport in the region.

Credit for the rapid rise of the sport in the UAE lays squarely at the feet of HH Sheikh Tahnoon Bin Zayed Al Nahyan who first developed a passion for the sport while studying in San Diego in 1995. He learned the principles of the martial art from the Gracie Barra Association and, on

his return to Dubai in 1997, spread the sport across the country. HH Sheikh Tahnoon was the first Emirati to be awarded a black belt, and many have followed in his footsteps since.

Jiu-Jitsu is the UAE's national sport, and the country has become a powerhouse for the sport through the region. The Jiu-Jitsu Asian Union (JJAU) has pushed for the inclusion of the sport as part of the 2018 Asian Games at Jakarta, with the support of more than 33 countries, which is a monumental achievement for the Union.

The sport's strength in the UAE is also reflected in the fact that the president of the association, Abdulmonem Al Hashmi, and general secretary Fahad Ali Al Shamsi, are both Emiratis. According to the UAE Jiu-Jitsu Federation, the sport is on the curriculum of over 100 schools and is taught to more than 40,000 boys and girls in Abu Dhabi alone.

The other key motivator has been the importance of Jiu-Jitsu techniques in other sports. Rorion Gracie, son of Helio and Carlos Jnr's cousin, formed the Ultimate Fighting Championship - the world's largest mixed martial arts promotion company - in 1993. The idea of the early competitions was to find the most effective martial art in real world circumstances, and included boxing, judo, the Russian art of Sambo (which also evolved from Kano's teachings, and traditional fighting and combat techniques from Russia and the Far East), wrestling, Muay Thai, karate and, of course Jiu-Jitsu. Many of the techniques once an MMA fight goes to ground come directly from the Jiu-Jitsu playbook.

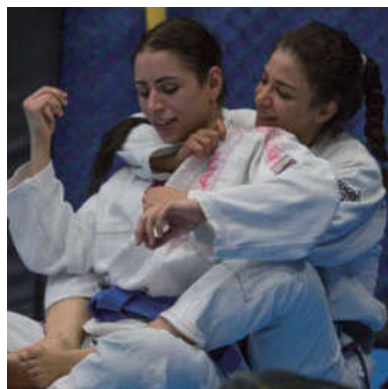
IT'S AN EXTREMELY COMPLEX SPORT. STEPPING ON TO THE MAT FOR THE first time is a daunting experience made all the worse by fellow white belts who say that it's taken 18 months of constant training to finally start piecing together techniques. It's not an encouraging start.

My motivation for this little two hour test session was simple. I've spent

most of my life either avoiding confrontation or relying on quick wit to talk myself out of sticky situations. While I've never faced a credible threat of violence, I'd like to know how to handle things should a situation go beyond a couple of stern words. Living in London scared the crap out of

▼ TECHNIQUE

If you're uncomfortable in close quarters, Jiu-Jitsu's probably not for you.







ARM YOURSELF

You don't need to be built like a brick outhouse to conquer your opponent, but you do need to develop a tremendous degree of fitness and stamina. Competition rounds can last over five minutes, and when you're locked together in energy-sapping holds, stamina is vital.

me, and the night bus home to the East End was always a frightening experience tempered by gobby teenagers

Truth is, I'd rather run than stick around and exchange blows. Fact is, age has dulled my pace somewhat, and while adrenaline may be a tremendous source of motivation, I'm fairly certain any asthmatic assailant could catch up quickly and lift my wallet without too much resistance. That aside, there's a matter of male pride at stake. I mean, who hasn't wanted to have the same skill set as Liam Neeson in *Taken*, or wanted to be like Mel Gibson's Mad Max or Tommy in Kenny Rogers' *Coward of the County*?

As fresh meat on the mat, I was expecting the crew at Pride Fitness in Dubai to leave me with a few bruises to the body and ego. I've heard it happens in other places, and wasn't looking forward to the steep physical and mental learning curve that lay ahead, the possible threat of a night in hospital, and a shiner for my trouble. Nothing could have been further from the reality of that first two hours.

There's no escaping the fact that it's a physical sport. It's demanding. It requires a great degree of flexibility, speed, measured aggression and tac-

▲ SQUARING UP

Jiu-Jitsu is a deeply technical and tactical sport.

tical positioning - and close physical contact is unavoidable. It's a submission sport, with the whole focus on forcing your opponent into an inescapable situation where they're forced to either tap out, or pass out.

The goal of the novice white belt fighter is to simply learn, then learn what you don't know and fill in those gaps. Technique is more important than strength (you don't need to be terribly strong to place stress on key areas) - which is something larger blokes need to adapt to early on. Egos should be checked at the door, because the whole point is to learn - and learning comes from working in an ego-free environment.

Instructions from black belt Eric Ramsey are clear, and his methodology closely follows Pride's goals of making the sport more accessible to the average person. The fact that fighters of all levels train together certainly helps beginners get to grips with things quickly. As a white belt, having a blue, purple, brown or black belt within your clutches - even if you're simply going through the motions of a new move - is a definite boost to the



■ RAPID FIRE



LONGER LASTING

Conditioning
Nothing beats constant practice for results, and rolling is the best conditioning you can get. But you might also want to incorporate a little extra strength training and cardio work in to your week to help keep you on your feet and powering through your sessions. It also helps to relax when training, tap out early and often. Remember: technique lasts until stamina expires.

dan in 2004, and again in Lebanon in 2010. She currently holds a brown belt in Jiu-Jitsu, and is the highest ranking Arab woman in the sport. Her husband is an Aikido black-belt but she outranks him in Jiu-Jitsu - a constant source of amusement for Ghalia.

For her, the sport is all about physical conditioning and technique.

"I don't want to compete. If people watch me when I roll, I get nervous. I keep coming back because it's a good workout. My upper body is ripped: I have a baby and a six-pack. I have a four year old and a one year old and I got my body back in no time because I'm an athlete.

"You know when you were a kid and you wrestled with your brother and sister? You know that feeling? That's how I feel. When you used to run around the house and catch each other and roll about. That how I feel; you forget the world and wrestle. That's it. And now when you apply the things and they work, it's really good to see. I'm so small, I'm 58 kg and sometimes I can sweep my husband who is like 90kg. Size does matter sometimes, but you really need to be fast and focused when you're smaller than your opponent," she said. And self-defense?

"If someone attacks me, I'm going to run for sure because I know what a guy can do to a girl. But I am comfortable with being close to someone who is attacking me, so I'm not going to panic. So, if someone attacks me in the street, I'm going to be startled at first but I'm going to calm down quickly and act. I'm not going to freak out. There are time when you do think about what might happen and how you would deal with it. What am I going to do if I can't run? What if he's holding me? Ok, so I'm going to cool do because he's going to hurt me if I'm not cool.

For TV presenter Shadia Bseiso, Jiu-Jitsu provides level of mental and physical focus that keeps her on top of her game. She spent time in Thailand studying Thai boxing but said she wasn't terribly good at it.

"My job meant that I couldn't get hit in the face, so I trained all wrong. I automatically dropped my hands because I knew they wouldn't hit me in the face. I never thought I had the speed that Muay Thai requires, so as soon as they started running Jiu-Jitsu classes, I was hooked.

"That's what got me. I was always in to music and wasn't very athletic growing up, so I was amazed that I could learn this technical sport. It's a game where you need to look at the bigger picture and, Ghalia knows, that training for your belt takes years. This took two years, three days a week. And if it's not given to you at the right time, you're going to get you're a**kicked on the mat. It's very special."

VINCE WASN'T LOOKING TO KICK ANYONE'S BUTT. HE SIMPLY DIDN'T WANT his wife to face the indignity of another groping. As his assailant flung an ill-timed punch past his face, Vince swung behind his opponent and locked him into a choke hold. Simple and effective, the move worked in a matter of seconds. His assailant buckled at the knees and tapped out with a gurgle. Vince released his grip, allowing his attacker to sit down and regain his composure. Security guards, who had seen both incidents, hauled Vince to one side to explain himself.

"I asked them what they would have done. They're fairly particular about these kinds of things, so they threw him out. The rest of the evening was very pleasant," Vince said. In terms of man-points that evening, he hit the bullseye.

If you'd like to see a real world example of just how effective Jiu-Jitsu can be, then head to You Tube and search for the name Monique Bastos. Bastos made international news when she foiled a robbery by two armed men in Acailandia, Brazil last month. They were after her phone and clearly though the petite 23-year-old was a soft target. They didn't realise she was an MMA professional and a Jiu-Jitsu blue belt. She fought back, and managed to lock one of her would-be in a triangle choke (a move that is very difficult to escape) until police arrived. You can't buy that sort of publicity. *With thanks to Karl, Eric and the team at Pride Fitness, Dubai. For more on Jiu-Jitsu in the region, check out pridefitnesscenter.com and uaeijf.com*



confidence. Sparring, or rolling, is all part of the sport too. For beginners, it's a chance to practice new moves or learn more. For the more experienced, it's a chance to work on technique, defense and escape. At Pride, rolling is open and it's not unusual to find a black and a white belt engaged.

For the balance of my time on the mat, Pride's Karl Keller, a blue belt and experienced MMA coach, ran through a variety of holds, guards and joint locks that required a lot of preparation, and a lot of fine tuning to nail precisely. Positioning is key; flexibility and agility is paramount, and speed is the key.

YOU BUMP INTO SOME OF THE most interesting people on the mat. Ghalia Baggily was one of a very small group of people who got the sport off the ground in Jor-



SHARPE SHOOTER

ROBERT SHARPE'S SUCCESS AT THE WORLD BEAUTY FITNESS AND FASHION CHAMPIONSHIPS IN LAS VEGAS PROPELLED HIM INTO PHYSIQUE MODELLING'S BIG LEAGUE. HE TELLS US WHAT THAT MEANS.

PHOTOGRAPHY: RAJESH RAGHAV



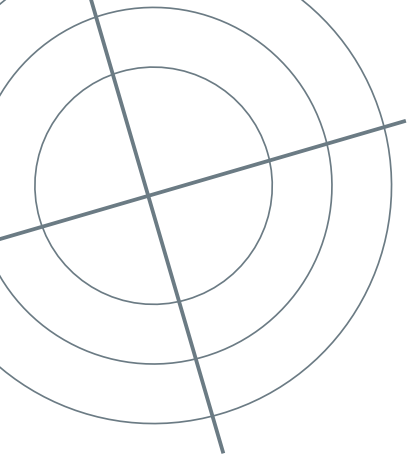
ROBERT SHARPE

AGE: 29

WEIGHT: 90 kg

HEIGHT: 180 cm

FROM: England



A MINUTE AND A HALF. TWELVE MONTHS of graft, the final 16 weeks of which was spent on an intensive build-up of closely monitored exercise and strict nutrition had boiled down to this: a precious handful of seconds in front of a panel of judges, versed in zeroing in on every flaw in physique development. As Robert Sharpe took the stage at the Cosmopolitan Hotel in Las Vegas to represent the UAE in the World Beauty Fitness and Fashion Championships, little did he know that his life would change beyond measure in that minute and a half.

There's no doubt about it: there has been an exponential growth both in the number of physique competitions held around the globe over the past six years, with three main US-based bodies catering for athletes' ambitions. The sport grew as an offshoot of body building, and attracts the kinds of athletes who either find it difficult to gain the extreme muscle mass required to compete in professional body-building, or who simply want to develop an athletic physique without pushing the limits of normality.

There was considerable scepticism at the launch of the WBFF's amateur Male Fitness Model division in 2009, mainly because the new sport lacked the sort of history traditional body-building enjoyed. Casual observers joked that competitors lacked the drive and determination required to build 'proper' mass, and that it was a soft sport designed for lightweights and shouldn't be taken seriously. The jokes were short-lived. The sport exploded, opening up body building to a wider group of competitors who would have otherwise stopped short of a fully-fledged career in fitness. The sport may be aimed at men and women who



“**YOU DON'T WANT TO GET UP ON STAGE AND LOOK SILLY. YOU TRAIN HARD, YOU DIET HARD. THE RESULTS SPEAK FOR THEMSELVES.**”

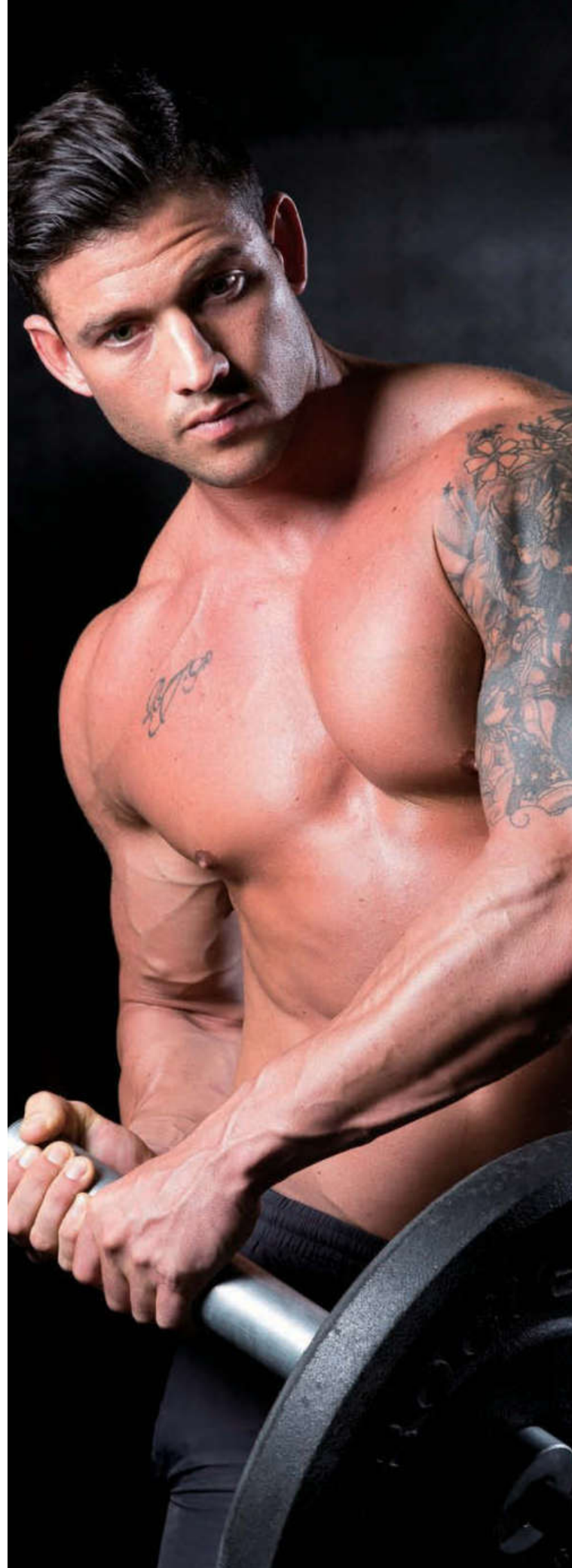
weight train and who prefer to develop a less muscular, yet athletic and aesthetically pleasing physique but it is by no means an easy sport.

Sharpe was first drawn to the sport two years ago. It offered a structure that he missed from his formative years as a boxer and footballer, and a focus for his training. His first competition was in Denmark in 2014 where he placed fourth.

“I think it's become popular because it's very achievable for the right people if you're willing to put the effort in. But it's lot easier said than done,” Sharpe explained.

“Denmark is really where I got the bug for it because I wasn't satisfied with fourth. I wanted to win and I was determined to do it. When I looked at what I could do better, it came down to my posing. With Physique, your posing goes a long way; your stage presence. I was a little bit shy and a little bit nervous and I think it showed onstage,” Sharpe explained.

“Different federations have different





dress codes. Some physique federations, you wear board shorts. In the WBFF in which I compete, you wear short shorts, so your leg development is important. The category I compete in is Fitness Model, but there are different categories. It's just become really popular, especially in England and America where the bulk of the competitors come from. The standards there really are the best."

Accessibility is the key. Sharpe says that most casual observers can relate to how a physique competitor has to train.

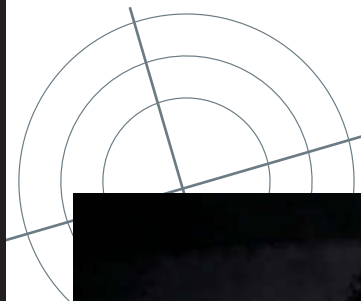
"Traditional body builders - those guys are an abnormal size, really. But a fitness model in reasonable shape could really achieve something in 12 months if he really put his mind to it, trained hard and got his nutrition right with the right coach. If you look at a body builder who is 130 kg and you're, say, 29 and want to pack on that sort of mass, you're not going to achieve that in a couple of years, are you?" he explained.

But physique competitions are different, Sharpe says. "Everyone wants to do it. When you see pictures of these guys who are absolutely shredded, you just want that. You want that end goal, and whatever that goal is, it really puts you in the right frame of mind to achieve it."

Dedication is key. "My motivation is getting up on that stage, and really, there's not much more motivation you need than that. You don't want to get up on stage and look silly. You train hard, you diet hard. It's all in the preparation, and you really can't afford to take any shortcuts."

While Sharpe says he maintains his training and nutrition regime year around, the build-up to competition begins in earnest 16 weeks out.

"I hire a coach, so all of my personal training is periodised and structured, so I have a plan to follow. If I miss one of those workouts or skip cardio, I feel pretty guilty. For 16 weeks, I didn't miss one session, no matter how bad I felt.



weights, measurements, and then you change things according to how the body reacts - like meal timings around training, meal timing before bed. So you're being watched and monitored during these check-

"The thing with a prep is that it's not a one thing fits all; everyone is different, so each week you check in on a Sunday with pictures,

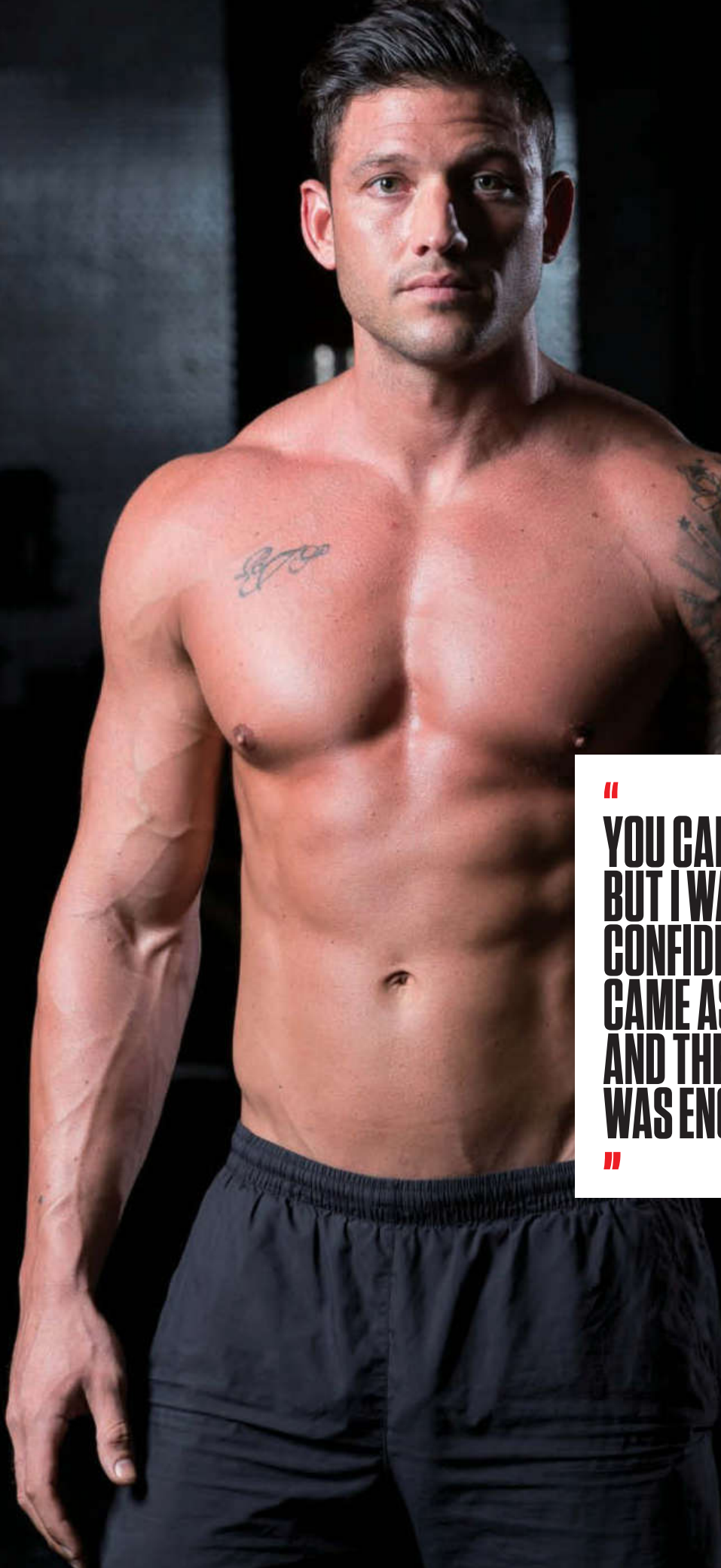
ins every Sunday.

"First week, I'll get my programme. Calories would probably start at a maintenance level, so your metabolic rate and total energy expenditure is all calculated out. The first six weeks is great because you're eating quite a lot of food. For me, this last time, the last six weeks was really tough. Before that, I was relaxed, but those last six weeks - and especially that very last week, was really tough."

The programme builds in intensity over the first 12 weeks, centring on muscle development while cutting body fat. In the last four weeks, Sharpe bumped his

“
**A FITNESS MODEL IN
REASONABLE SHAPE
COULD ACHIEVE
SOMETHING IN 12
MONTHS IF HE REALLY
PUT HIS MIND TO IT.**
”





sessions to three workouts a day.

"I was doing two weights sessions a day and one cardio session a day. So, I'd do quads in the morning and do a cardio session afterwards, then do quads again in the evening. On days like that, my calorie intake would be high, then the next day you drop down to a single muscle group and the calories would be a bit lower.

"So the calories are dialled in to match what you're doing. If you do a double leg workout, that needs to be a high calories day otherwise you're just going to ruin your central nervous system and your adrenals and all sorts of problems. On a high day, that was around 2800 calories and on a low day, 2400. It's really split into three: high, moderate and low days. A high day will be

legs, moderate day will be a single body part, and low will be a rest from weights - so that will be right down to around 50 grams of carbs. It's called carb cycling. It's what I did for the whole 16 weeks really."

"It really worked. I dropped a lot of body fat, was obviously tired but it paid off in the end."

He followed that cycle for 15 weeks, arriving in LA a week before the event to begin his final conditioning.

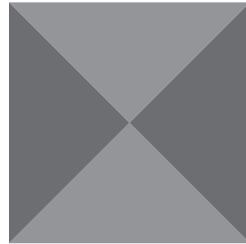
"The last week is when all the fine-tuning and touch ups are

done. A lot can be done in the final week with water and sodium intake manipulation.

"What you do for the first five days is water load, so you'd drink 8-10 litres of water a day. You also cut your sodium in the last week, and your carb intake would be down to just vegetables. Your workouts would be full upper body depletion workouts. What you're trying to do is deplete the muscles of glycogen so at the end of the week when you carb load, your muscles just fill up."

"You continue to workout, of course, but you don't do anything failure. You're just

**"YOU CAN'T RELAX,
BUT I WAS FAIRLY
CONFIDENT. IT STILL
CAME AS A SHOCK
AND THE REACTION
WAS ENCOURAGING."**





pumping to get that lactic acid burn. So, low weight high reps. You don't want to go to failure because you don't want to swell your muscle bellies and damage them."

"The last three days you cut water in half because your body still thinks it needs to get rid of it, so it flushes it out. Around then I start to carb load as well, so the first day would be 200 grams, the next day would be 300, then

you get to 400. Again, it depends on your body."

"The day before, and on show day, you start putting sodium back in. That brings all the veins out. Show day is probably the best day out of the whole 16 weeks because you're eating quite a lot to fill up. You're quite

depleted and quite tired, but the end is in sight, and you're just ready to get on stage and show everyone your hard work."

And then the moment arrives. Your name is called and you step forward to be judged.

"It's quite a long day but it goes really fast because everyone backstage is very friendly and they're all in the same boat. It's not how you think it might be, everyone is happy, sharing food. It's really good.

"There are quite a few categories to get through. When it comes to your turn, you're given a number and you go out in 10s. I was very relaxed though because I put in the practice with my posing coach, so it was a lot better than last time. You don't really notice the crowd to be honest, the lights are shining, you do your little routine, you come back.

"They're not bodybuilding poses, more natural poses with a slight flex. With the federation I do, everybody has their own pose, so it's a lot more free and natural than some other federations. You've just got to smile and get on with it. You can see the crowd, but you just try to not look.

Results are not announced until the next night when both ranks of amateurs and professionals have been through the process.

"You can't relax, but I was fairly confident because you kinda know where you are. It still came as a shock, and the reaction from guys I was competing with was really encouraging. Social media has blow up since too. I guess being the first guy from this region to win the category is a bit of a big deal, and now that I've got my pro card, it means I have to work harder to compete."

For Sharpe, that means an even tougher regime of maintenance while also building his own fitness brand, RJS Fitness. "I'm very happy in Dubai. The business is going well, and I'm happy with what I've achieved here. I'm not planning on going anywhere, anytime soon. Everyone wants to get fit here. The industry is very good, very strong. I'd like to see it get even better.

ROBERT SHARPE'S MET-CON WORKOUT

FOLLOW THIS 25-MINUTE FULL BODY METABOLIC CONDITIONING WORKOUT TO GET YOUR ENGINE FIRING AND YOU FAT FRYING.

Perform each exercise with a barbell, competing all five exercises back to back. Don't rest in between the five exercises. The idea is to keep your body in a metabolic state and in a great cardio fat burning zone.

- A1. Snatch press
- A2. Squats
- A3. Overhead press
- A4. Bent over row
- A5. Deadlifts

SHARPE SAYS:

Rest for 90 seconds before starting the second set of five full sets. Do not put the barbell down between exercises. I suggest using a 20kg barbell with 5kg on each side to begin with then looking to add weight. Add this routine twice a week to your current training plan as I did 5 weeks before I won my fitness model world title.

MORE INFO

You can keep tabs on Robert's training by following him at the following social media links.

Instagram: rjs-fitness
Facebook: facebook.com/RJS-Fitness
Web: rjs-fitness.com

You can also contact Robert on info@rjs-fitness.com



A man with dark hair and sunglasses is sitting in a wooden Adirondack chair on a green lawn. He is holding a fishing rod with a long, thin, curved line that extends across the sky. He is wearing a white short-sleeved shirt with a blue floral pattern and white shorts. A dark bottle is on the chair's arm. In the background, there is a large white house with a green roof and a chimney, surrounded by trees and bushes under a blue sky with scattered white clouds.

10 Ways to Retire

10 Years

PLAY IT SMART, AND YOU WON'T NEED A FORTUNE TO LEAVE THE OFFICE BEHIND. NOW PASS THOSE MARSHMALLOWS, WOULD YA?

By Richard Sine / Photographs by Nathaniel Welch / P.130

Early





1

Calculate Your Number—Then Toss It

Those online calculators will say you need 70 to 85 percent of your current income annually in order to retire comfortably. "That's nonsense," says David Gould, a former programmer who retired at age 45 with \$800,000 in assets. "I was living fine on 50 percent of my working income." Remember: The financial wizards who devise these calculators do so because they want to scare you into investing with them, says Fred Brock, author of *Retire on Less Than You Think*. "They're using the wrong set of numbers," he says, "and it leads to a lot of anxiety. Your true estimate should be based not on how much you're earning now but on how much you'll spend in retirement."

▼ **PLAY CATCH-UP**
Got a late start? Hit fast-forward: Starting at age 50, you can invest an extra \$6,000 in your 401(k) and an extra \$1,000 in your IRA yearly, says investment analyst Maria Bruno, CFP. Stash some cash in nonretirement accounts too. Bruno suggests broad market ETF funds or municipal bond ETF funds.



2

Don't Let Your 401(k) Get Lonely

Haven't opened a Roth IRA yet? Get on it. This account will offer you greater financial flexibility later in life, says Maria Bruno, C.F.P., a senior investment analyst at Vanguard. While the Roth

should be earmarked for retirement, she says, all the savings you pour into it is accessible tax- and penalty-free, so the money will be there if you run into a break-glass-in-case-of-emergency situation. You can also tap your Roth (up to the \$10,000 lifetime limit) to buy a first home or pay college expenses.

If you do leave or lose your job, resist the temptation to cash out your 401(k); 30 percent of people do this, and it's usually a huge mistake, says John Sweeney, executive vice president of retirement and investing strategies for Fidelity. When in doubt, just let it alone. Or you can move your account to an IRA or a new employer's plan. Warning: When transferring to a new account, have the cheque made out to the new financial firm and sent directly there to ensure you avoid possible penalties and taxes (in your home country) on the transferred amount.

► **OPT FOR A 15-YEAR MORTGAGE** On a \$200K fixed-rate loan these days, you'll pay about \$90K less in interest than if you choose a 30-year term.



3

Push Your Portfolio to the Limit

Embrace index funds. Charles Schwab forecasters see middle- and smaller-size stocks (like the Russell 2000 Index) returning 7.1 percent annually over

the next 20 years. Large-cap stocks (the S&P 500) are projected to return 6.3 percent; bonds, just 3.3 percent. Put \$1,000 a month into the smaller stocks for those 20 years, and if Chuck is right, you'll have \$516,278 by the end. With bonds, you'll have a mere \$338,330. "Even guys in their early 50s should probably own at least 50 to 60 percent of their portfolio in stocks," says Wes Moss, C.F.P., author of *You Can Retire Sooner Than You Think*. After that, you'll want to tip the balance to a 50-50 split with lower-risk investments like bonds.

► **GO SUPERLEAN** If you make \$50K, pretend you make 40, Sweeney says. Adjust your lifestyle, pay down debt, and plow the savings into your portfolio.

4

Put Your Debts to Death

Pay off high-interest debt, like credit card balances, first. Don't rush to pay off college loans, says Stuart Ritter, a senior financial planner at T. Rowe Price. Interest on education loans tends to be lower, and it's often tax-deductible. Any extra cash is better served in your 401(k). Try a target-date fund, Ritter says. This type real-locates assets from a stock-heavy to a bond-heavy portfolio as your retirement date nears.

► **SCORE A KICKBACK** If you're paying off your balance in full every month, switch to a rewards card, such as Fidelity's American Express, which deposits 2 percent of your purchases into an IRA or 529 plan.



A man and a woman are relaxing on blue inflatable mats in a pool. The woman is on the left, wearing a white bikini and sunglasses, looking towards the man. The man is on the right, shirtless, wearing red patterned swim trunks and sunglasses, with his hands behind his head. Several papers and a briefcase are floating in the water around them.

5

Home In on Wealth

Your landlord is playing you, so ditch him. The net worth of the average homeowner is more than 10 times that of a renter, according to a U.S. government survey. Can't zap your mortgage in this lifetime? Think about downsizing. If you sell that \$300,000 home you purchased 20 years ago, you can use the accumulated equity (about \$159,000) to buy a smaller house with cash. And if your home's value has kept up with inflation, you could sell it for \$470,000. Give a 5 percent commission to your real-estate agent, and now you have \$306,000 in equity to play with. You can use that chunk of change to buy an updated two-bedroom house, no mortgage strings attached. What was likely your largest living expense—the mortgage payment—is now history. And since you have a smaller house now, your upkeep costs and property taxes should also come down. Total savings: nearly \$1,900 a month.

► **IT PAYS OFF!** Outsource your mortgage. On average, Airbnb hosts in L.A. took in nearly \$8K in rental income last year.



6

Childproof Your Retirement Strategy

We know it, and you know it: Kids slow down your race to retirement. While that's no reason to forgo fatherhood, it does mean you'll need to strategize differently.

Consider: The average middle-income family will spend \$245,340 to raise a child born in 2013, according to the USDA. The good news? You'll probably spend a bit less on the second or third child. The bad? That figure doesn't include higher education.

And college spending really matters, not just because it's a lot of money but also because many men start pondering early retirement just as their teenage kids start quoting prices for textbooks and meal plans. So incentivize your son or daughter to attend a state school. A student at a four-year private college pays an average of \$23,476 more per year in tuition and expenses than a student at an in-state public school. Is the extra \$23K worth it? No. Using pay data for 1.4 million college grads, the salary information site PayScale estimates that the average return on investment for people who attended public institutions is 13 percent higher than it is for private-school alumni.

► **KEEP THE CHANGE, KID!** A student's college loans should not exceed his or her projected first-year salary, says Mark Kantrowitz, publisher of Edvisors.



7

Access to public funds (where applicable)

Here's a comforting fact: If you want to retire at 50, your savings alone won't have to cover you for the rest of your life. Americans are eligible for Social

Security from age 62 onward—and yes, there's a good chance it'll still be around. "I've interviewed the head of the Social Security Trust Fund, and the fear of it disappearing in 20 years is overblown," says Moss. "Guys in their 30s and 40s can still count on about three-quarters of what their parents are getting from Social Security. Odds are, even 20 years after retirement, they'll still be receiving about three-quarters of the current benefit."

But if your mind is still not at ease, consider that you'll also have Medicare kicking in when you turn 65; this will cover most of your medical expenses. And even though you can't pull savings out of your IRA until you're 59½ without a big-time penalty, you can withdraw from your 401(k) penalty-free if you leave your job at or after age 55. And remember: You may not need as much retirement cash as you think. Once people hit their 70s, spending continues to decline, studies show.

► **CALL OFF SECURITY** Put off collecting Social Security until 65 and your payment goes up 25 percent, Sweeney says. Until 70, about 64 percent.

8. Seek Alternatives

If your finances are in order and your health is good, look for a low-price, high-deductible health insurance plan and back yourself, says Jeff Yeager, AARP's savings expert. Or consider other forms of medical expense sharing. Companies like Liberty Health Share says its plans are for all people who agree with its "statement of shared beliefs," don't abuse alcohol or drugs, and are healthy. With Liberty, a single guy over 30 would pay a \$500 deductible and just \$199 a month. A family would pay \$449 a month. The plan covers 100 percent of medical bills up to \$1 million per incident. "It could be the ideal replacement for health insurance," says Philip Taylor, a CPA and founder of the PTMoney blog. Taylor's family saved nearly \$4,400 in seven months by switching to one such program, Medi-Share.

9. Score a Lifetime Pay Cheque

Next time you hop jobs, look for a compensation package with a pension—a plan your employer pays into with deferred wages. In retirement, this provides a steady income. Pensions used to be more common, but 22 percent of Fortune 500 employers still offer them to new hires, according to the risk management and HR consulting firm Towers Watson. Average annual benefit: about \$8,600. Focus your search on larger, older companies, says Nancy Hwa, a spokeswoman for the Pension Rights Center, an advocacy group for pension holders. You might have more success with certain industries: Sixty-six percent of insurance companies, 59 percent of utilities, and 44 percent of energy firms offer pensions, according to Towers Watson.

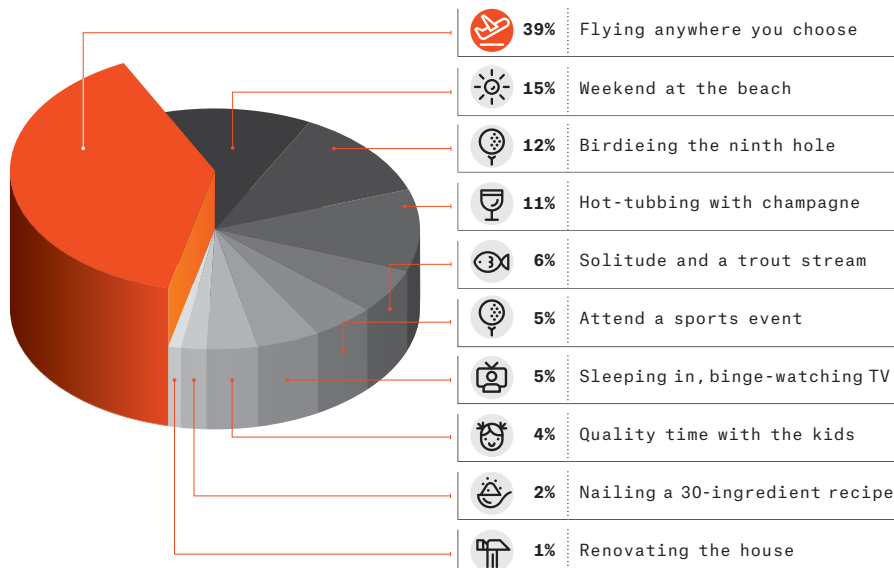
10. Upgrade to the International Plan

After retiring at age 38 with about \$500,000 in investments, former money manager Billy Kaderli sold his home and started traveling full-time with his wife. Today they live in a hotel on the shores of Guatemala's Lake Atitlán. Their room has a volcano view, broadband, and weekly maid service, and they can walk or take a boat to a variety of great restaurants. Total cost? About \$1,350 a month, roughly the same as the average Social Security benefit for a single retired American. There are dozens of locations in Latin America and Asia where you can live comfortably for \$1,000 a month, says Kathleen Peddicord, author of *How to Retire Overseas*. "For \$3,000 a month, you can attain a luxury lifestyle in a lot of places." ■

Ed note: While most of the advice contained within this feature is specific to US citizens, the core message remains; Making steps now will help secure your financial future, could mean you can check out of the rat-race earlier, and may not cost as much as you may think.

YOU'RE RETIRED. NOW WHAT?

We asked 380 readers how they'd spend their first day free of the office.









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Testosterone for Sale

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 Is low T an illness, a part of aging, an excuse to sell meds, or all of the above?

 Steal yourself and read on.

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BY PAUL JOHN SCOTT PHOTOGRAPHS BY CLAIRE BENOIST



A LOT OF THINGS CAN DIM THE FIREBALL INSIDE A MIDDLE-AGED GUY.

As a husband, father, homeowner, and perhaps boss, he's farther up the mountain but his backpack feels heavy. He might wake up one day and discover that he now weighs, oops, 225, with very little of it muscle. He might find nothing in the tank for sex if it's a Tuesday and past 9:30. Maybe he hasn't met all the goals he set at 30. Worse, maybe he did. ¶ These are complicated burdens. Attempting to fix any one of them could be a huge challenge. How convenient, then, would it be if he could pop a pill that purported to be the rejuvenating answer? Given the choice between making life changes and filling a prescription for testosterone, it's an easy decision. But is the easy answer an effective one?

The fight to thwart male decline has been going on ever since the first guy with hair growing out of his ears plunked down a cheque for a four-wheeled mojo enhancer. But in the past seven years (since the start of the Great Recession—go figure), the struggle to stay vital is increasingly being approached as a biochemical problem, one requiring pharmaceutical intervention in the form of testosterone replacement therapy (TRT). And we're not just talking about men over 50 or even 40.

Depending on who you ask, the turbocharged rise in the use of TRT shots, gels, patches, and pills is either (1) an inspiring transformation in how doctors treat a vast and despairing brotherhood of men, or (2) expensive quackery that targets male vanity and has nonexistent benefits and deadly risks. The fact that the symptoms driving men to testosterone therapy are often subjective and can easily resemble those of normal aging, depression, poor sleep, or bad choices at the food trough only complicates the debate. Also not helping: Men's hormone levels are in a historic, culture-wide decline, under assault from a steady increase of obesity, painkiller abuse, food toxins, and estrogen-mimicking compounds in water and soil.

In March, the FDA announced that it had asked drugmakers

to add language to the labels of testosterone replacement products warning of increased heart attack and stroke risk. But in February, a large review of the literature concluded that the research indicting testosterone replacement as a heart risk is vastly outgunned by the research showing that it helps. Confused? You're not alone.

"I have been shocked and at times even overwhelmed by the number of guys seeking help from my forum, due to misinformation, lack of information, and some doctors' cruel dismissal of their concerns about low testosterone," says Lee Myer, 55, a testosterone user in Tempe, Arizona, who runs an online forum for T-curious men. "The confusion is only made worse by pharmaceutical and clinic ads that push men toward a single answer." (Yes, some of those ads have run in *Men's Health*. It's a complicated topic, as you'll see.)

Myer's site, Peak Testosterone, is just one of several gathering spots where men trade notes about their experiences with vitality in a bottle. An IT professional who's married with three children, Myer hopes to change perceptions about TRT, starting with the idea that it's comparable to taking steroids or that the symptoms of low T are overblown. "Unless you've gone through low testosterone, you don't know what it's like," he says. "I'd like to take that doctor who is suspicious of the drug therapy and get his testosterone down to 259—to where he's got erectile dysfunction, he's about to lose his marriage, he can't think very well, and he's struggling in his practice."

Myer says TRT shots relieved him of a dysphoric mood—unease, anxiety, misery—that first took up shop in his cranium during his teen years. He says his testosterone turnaround gave him the energy to attack his job and responsibilities with renewed drive. "My cognitive abilities have never been better," he says. His focus has improved too. He is listening to music with attention and joy, he says, for the first time since he was a teenager. The pharmaceutical companies have not yet produced evidence that testosterone can help a guy dig that funky groove, but the oddness of the observation has an authentic ring. It makes you wonder if some sort of fountain of youth can be tapped in male hormones. "In my early 50s," Myer says, "I am finally living the youth I should have had in my 20s."

It's praise echoed by a man I'll call Sam, a 43-year-old scientist in San Francisco who went on testosterone shots three years ago when blood work revealed that he had low levels of something called sex hormone binding globulin, or SHBG. For Sam, it was life-



BEEF UP

A high-protein diet, fortified with iron from the gym, can give your T a drug-free assist.

"IT'S CRAZY HOW MANY

DUDES DO IT. YOU'RE IN

THERE FOR ABOUT TWO MINUTES. THE NURSE CHECKS ALL YOUR VITAL



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**TESTOSTERONE,
BY THE NUMBERS**
Depending on
who you ask,
your T may be
A-OK or in the
basement.

=====

For years, the official threshold for triggering testosterone replacement in men ages 50 and older hovered around 200 to 230 nanograms per deciliter (ng/dl). Today, guidelines from the Endocrine

Society recommend that doctors use whatever cutoffs their labs suggest to ID men who need TRT; these range from 300 to as high as 350 ng/dl.

Where did these new numbers come from? They're arbitrary, says

Victor Montori, M.D., of the Mayo Clinic. He was on the panel that wrote the guidelines and is critical of how they turned out. "These values are chosen by laboratories without connection with prognosis or response to treatment. They [the other panel members] took a continuous variable, and they drew a line here

and here," he says, chopping his hand at two points on an imaginary continuum. "By the new reasoning, 25 percent of men will have hypogonadism." His advice to guys: Don't rely on the guidelines. "We need a level below which treatment is associated with patient benefits. Unfortunately, that level has not yet been determined." —P.J.S.

SIGNS AND THEN SHOOTS YOU IN THE BUTT."

THE DECLINE IN TESTOSTERONE IS REAL. AVERAGE T LEVELS AMONG



STOP THE T THIEVES

Three ways to fight flagging testosterone.

Buy Broccoli

Cruciferous vegetables, such as brussels sprouts and broccoli, give you a dose of indole-3-carbinol (I3C). This compound suppresses estrogen production and helps fight T-depleting fat, says John La Puma, M.D. Steam 'em instead of boiling; the I3C will leach into the cooking water.

Ditch Dirty H₂O

Your local water authority tests for the weed killer atrazine, but even "safe" levels may not be: It's been linked to reduced T in animal studies. Dr. La Puma suggests using a water filter that's NSF certified to remove atrazine, such as Brita's Advanced Faucet Filtration System (\$30, brita.com).

Conk Out Early

Men who sleep less than five hours a night have lower levels of testosterone, says Dr. La Puma. Your body churns out the hormone while you snooze, so sacrificing sack time means those T factories won't hit their quotas. Aim for at least six hours a night, Dr. La Puma says. —Lila Battis

style-related—he spread 215 pounds over a 6-foot frame, ate poorly, and found time to stress but not to exercise—and the SHBG deficiency was causing his body to burn through its available testosterone way too quickly. At the time, all he knew was that he couldn't get himself out of bed most mornings.

"I had become a father but realised I wasn't being a good father," he says. "I would sleep in. I didn't have the energy to read a story to my children at night, and it caused a lot of tension in my marriage." Today Sam rides a bike and has more lean muscle, and his weight is under control. He says testosterone gave him the energy to do all that.

Those are the guys the testosterone industry wants you to hear from. But there are other guys.

"I get a testosterone shot in the butt every week," says my childhood buddy Andy, 51, a marketing specialist in the Phoenix area. Andy couldn't tell you the exact blood level that triggered his decision. A single man, he's never had libido problems, and as for his physical condition, he trains at a place where NFL guys tune up. Andy's choice to go on testosterone was all impulse: Four years ago he saw the ads, heard about a clinic from someone in his gym, and decided it might help him stay on top of his game. He thinks TRT has helped his body composition, but he isn't sure. "It is crazy how many dudes do it," he says. "You're in there for about two minutes. The nurse checks all your vital signs and then shoots you in the butt."

Combine the serious users with the guys doing it on a lark, and then throw in all the dudes who quit taking testosterone after a month (19 percent, according to one study), and you're talking about millions of buyers of male hormones. Since the launch in 2008 of the "Is It Low T?" ad campaign funded by AndroGel (an *MH* advertiser), sales of testosterone have climbed 460 percent. Six and a half million prescriptions were written for testosterone in the United States in 2014. Total testosterone sales were a \$2.1 billion market that year. And it's all uncharted waters.

"My concern is this whole campaign is encouraging people to take hormones we don't know they need for a disease they don't have," says Steven Woloshin, M.D., codirector of the Center for Medicine in the Media at Dartmouth Institute for Health Policy and Clinical Practice. Dr. Woloshin may sound out of touch with the latest therapeutic options, or behind the times with the latest drug therapies, or unsympathetic to men who feel less manly. He may also sound unimpressed with the basic middle-aged wish to reexperience the sort of morning rise that makes it hard to pee in a downward trajectory. (A hallmark of low testos-



MEN OVER AGE 45 HAVE

DROPPED 20 PERCENT

IN JUST A FEW DECADES.

terone is less of this sort of thing.) But he's right: The phenomenon may be wishful thinking on a massive and expensive scale

TESTOSTERONE REPLACEMENT THERAPY IS CURRENTLY approved only for the treatment of male hypogonadism, or lack of testosterone, caused specifically by a problem with the testicles or with certain parts of the brain—the pituitary gland and hypothalamus—that control the gonads. You might inherit such a state, or it could be caused by injury or such conditions as a brain tumor or an undescended testicle. Men with these types of hypogonadism have extremely low blood testosterone and symptoms like enlarged breasts, hairlessness, loss of muscle mass, low libido, and bones that break easily. According to a study in *JAMA Internal Medicine*, however, a quarter of men who supplement with testosterone never even bother having a blood test, and only half have been diagnosed with hypogonadism.

In 2010, in an attempt to differentiate what was becoming known as “late-onset hypogonadism” from normal, age-related T decline, researchers analyzed data from the European Male Aging Study, which followed more than 3,000 men ages 40 to 79 in eight countries. They found that out of 32 symptoms often mentioned in the same breath as “low T,” only three—a decrease in sexual thoughts, fewer morning erections, and erectile dysfunction—were associated with low levels of the hormone. “Low” was defined by the researchers as a total testosterone blood level of 320 nanograms per deciliter (ng/dl) or less and a free testosterone of 220 picomoles per liter or less. Anything more nebulous, in other words, and you're just turning to TRT because life is getting weird on you. Hell, some experts argue that even having these symptoms and coming in at or under these levels doesn't justify the drug. (See “Testosterone, by the Numbers.”) That matters, because as a number of recent studies have suggested, taking testosterone may double or even triple your risk of heart disease.

HOW TO MARKET

A MIRACLE

Drugmakers are selling youth, and we're buying.



So here's the bad news: Increasing your testosterone can thicken your blood and lower your good HDL cholesterol, both of which hike your odds of heart disease. Researchers first began to learn of testosterone's link to cardiovascular risk between 2005 and 2009, when a team in Boston set out to determine if frail older men became more mobile after having their man juice jacked up. Their study, published in the *New England Journal of Medicine*, noted that the added testosterone made the men stronger on the leg press and chest press and climbing stairs. However, the trial was halted because 23 of the 106 men taking it developed cardiovascular problems, versus only five of the 103 men who'd been using a placebo gel.

By April 2013, researchers writing in *BMC Medicine* had sorted through thousands of results in 27 clinical trials and also determined that the risk of cardiovascular events went up for men on testosterone. (Curiously, this risk became apparent only in trials that were not paid for by the makers of the drugs.) Then in November 2013, researchers for Colorado's VA system wrote in *JAMA* that they'd analysed the data from 8,000 men with low T who had gotten an angiogram before going on the hormone. Three years after starting, 26 percent of the men on testosterone had either experienced a new cardiovascular event or died, versus only 20 percent of the men who didn't take testosterone.

Another alarm sounded in 2014, when a study in the journal *PLOS One* looked at the health records of 55,000 men and found that testosterone use had doubled the risk of nonfatal heart attack in men over 65 and tripled the risk in younger men with a history of heart disease. (Younger men with no heart disease fared well on the drug.)

“The *PLOS One* paper excluded anybody who died of a heart attack,” says John Morley, M.D., a low-testosterone expert at Saint Louis University School of Medicine. “It may well be they found a higher level of heart attacks in men on testosterone because those men lived while the others [who didn't take it] died.”

As for the *NEJM* study of older men and mobility, “It is good that it was a random controlled trial,” says Martin Miner, M.D., codirector of the Men's Health Center at Miriam Hospital in Providence, Rhode Island. “But what was poor was that it really wasn't a safety study. We don't normally start elderly men with a history of heart failure on such large doses of testosterone.” In other words, the research wasn't the best way to find out if testosterone is dangerous.

For some men, there's no question that TRT is trouble. Back in 2008, Mike (not his real name) had borderline low T, some accumulating weight around his midsection, and amorphous regrets about the condition of his condition. “I'd just turned 43 and noticed that everything was slowing down,” he says. “My libido was low, and I was losing energy.” His doctor prescribed AndroGel. Mike's testosterone levels didn't climb much, but he says he

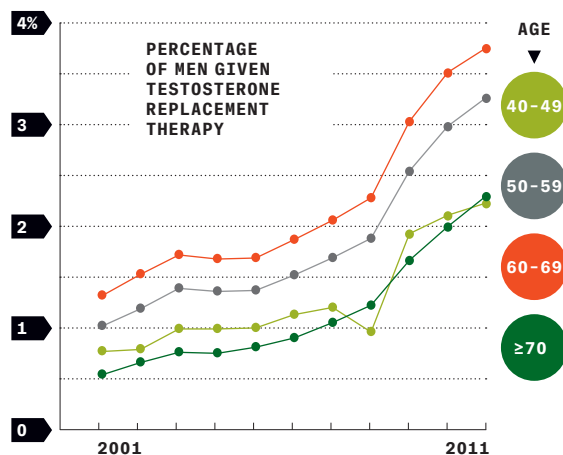


T ON TAP

Six and a half million prescriptions were written for testosterone in the US in 2014.



When University of Texas researchers reviewed a decade of TRT prescribing rates, they saw the impact of a looser definition of low T. But men in their 40s got an extra push. “The increase in use among younger men coincided with a rise in direct-to-consumer marketing,” says study author Jacques Baillargeon, Ph.D.



did notice an increase in energy. “The anger went away, my frustration went down, and I was able to deal with things better,” he recalls.

Four years later, Mike had a heart attack. Two in one day, in fact. One of his arteries was almost fully blocked, and two others were at 40 percent. Yet Mike stayed on the drug for another two years, going off it only after hearing about the *PLOS One* study. Today Mike is suing the makers of Andro-Gel. “Nobody discussed the risks, even after my heart attack.”

Blame the fog of T research. “I’m not saying testosterone is safe or unsafe,” says Dr. Miner. “I’m just saying those studies are so complicated, that for the lay public to interpret from them that a product causes significant risk is inappropriate.”

“There were 14 studies between 2006 and 2013 associating low testosterone with increased cardiovascular events,” says Dr. Miner. “Just because heart disease is associated with low testosterone doesn’t mean it was caused by it.”

This confusion is why many of the nation’s hormone experts specifically recommend against screening for low T; they just can’t say whether low T is an important health problem or not.

HORMONES ARE CHEMICAL MESSENGERS that tell our bodies what to do, but only some of their messages are a matter of life and death. Metabolic hormones turn energy into fuel. Stress hormones protect you in a crisis. Testosterone builds muscle and bone, but it mostly works with your wants, not your needs. Of course, low testosterone doesn’t have to be deadly to deserve our attention: Sam and Myer depict life before TRT as sluggish and glum. If you can cure a nagging woe, why not?

The problem is, the evidence isn’t even very good that TRT helps your mood.

“We don’t know that low testosterone is the primary reason people feel rotten or without much drive,” says Victor Montori, M.D., an endocrinologist at the Mayo Clinic. “After age 45, men lose a small amount of testosterone each year. If losing testosterone made you feel bad, then there should be more 70-year-olds feeling robbed of life than 60-year-olds, and more 60-year-olds feeling like a shadow of their old selves than 50-year-olds. I haven’t seen that data.” Moreover, doctors can’t even agree on what a healthy level of testosterone

is. “This is why no one should ever make the diagnosis of low testosterone without seeing some sort of symptoms,” says Dr. Morley.

Dr. Morley designed the low-testosterone symptom questionnaire of the moment, the Androgen Deficiency in the Aging Male (ADAM) test, a 10-item worksheet that asks, “Is It Low T?” Candid and chatty (in 2013 Dr. Morley famously told the national media he had written the highly promoted test in 20 minutes on a roll of toilet paper in the bathroom), he doesn’t try to argue that the test is perfect. “It’s very good at not missing people,” he says, “but it’s not very good at diagnosing low testosterone. It’s a screening test.” While it’s better than anything else that’s out there, he says, “it may overinclude people who won’t benefit.”

Yet it’s likely that millions of men have diagnosed themselves as having low T after answering yes to some of Dr. Morley’s broadly drawn questions. The test asks about a cornucopia of subjective existential midlife issues, such as declining energy, increased sadness, soft erections, less enjoyment, poor work performance, reduced height, problems with strength and endurance, difficulty playing sports, and low libido. You only need to answer yes to both the low sex drive and soft erection questions, or three of any of the others, to be termed a candidate for a low T diagnosis; on bad days it’s easy for many men to run the table. The “Is It Low T?” website that hosted the quiz was taken down in May.

“It’s been extremely effective,” complains Dr. Woloshin, a critic who believes the questionnaire has triggered the current rush on products. “The problem is that it overpromises the benefits of testosterone while it underplays the harms, and it makes men think low testosterone is the cause of problems that are unrelated.”

The inflated promises of TRT start with the idea that it can inflate your manhood, not to mention the suggestion that erectile problems are even reliably related to testosterone deficiency. A 2011 review from Imperial College London, for instance, found “no relationship between testosterone level and the severity of erectile dysfunction.” (While impaired sexual function is required for the diagnosis of late-onset hypogonadism, most men with erectile dysfunction have normal T levels.)

What *can* testosterone do? “When you look at clinical trials of people with moderate or mild low testosterone receiving physiologic testosterone replacement,” says Dr. Montori, “the impact on quality of life and sexual function is either minimal or nonexistent.”

Dr. Morley disagrees: “Poor libido and a poor quality of erection are the symptoms most related to poor testosterone,” he says. “There is also a subset of people with low testosterone who have fatigue, who are unhappy, and who don’t have strength. They look like they’re depressed, but they actually have low testosterone.” Except here, too, the science isn’t on his side: The European Male Aging Study results also show that psychological symptoms had little or no association with testosterone levels.

JOHN LA PUMA, M.D., IS A CRITIC OF USING TRT without a diagnosis of hypogonadism. The California-based internist and author of *Refuel: A 24-Day Eating Plan to Shed Fat, Boost Testosterone and Pump Up Strength and Stamina* wrote a widely shared op-ed arguing that low T was a pharmaceutical-industry-generated sickness. But he’ll readily acknowledge that the decline in testosterone is real. He says it’s the *causes* of low T we should be talking about and correcting.

“Men’s testosterone levels are dropping,” says Dr. La Puma, who cites a 2007 study in the *Journal of Clinical Endocrinology and Metabolism*, which found that average T levels in men over age 45 were 501 ng/dl in the late 1980s, 435 ng/dl in the mid-1990s, and 391 mg/dl in the early 2000s.

“That’s down 20 percent in a few decades’ time,” he says. “I think what’s not recognised is how lifestyle affects testosterone levels.”

Alcohol lowers testosterone. So do steroids, stress, and opioid painkillers (enough opioid prescriptions are written these days for every adult to have his or her own bottle). There are also testosterone-diminishing forces in the environment to be considered. A study in the journal *Fertility and Sterility* found a specific association between exposure to phthalates (a group of chemical compounds widely used in soft plastics) and male infertility. These so-called endocrine disruptors can invade your system every time you heat up foods in plastic containers, plates, or wraps. “They transfer into hot, oily foods,” says Dr. La Puma, “and change the way hormones work in the body.”

Still, the smart money says the primary cause is in front of our eyes, and down about 18 inches.

“I think it’s pretty clear that men gain weight in the belly,” says Dr. La Puma. “We tend to overeat starchy, sugary foods because they’re handy, quick, cheap, and available. Those foods are incredibly efficient at making men obese.” Men’s belly fat cells convert their testosterone into estrogen, he says, and can make testosterone plummet.

Results from the European Male Aging Study

THREE OUT OF FOUR MEN WHO HAVE LOW

TESTOSTERONE ARE OVERWEIGHT.



also found that low T was often paired with excess body weight. Three out of four men with low T were overweight, and that included every one of the 40-somethings in the group. And the fatter the man, the greater the risk, the study noted.

These are mostly the men Andy shares the waiting room with, before the needle in the bum. “The guys I see skew between 40 and 60,” he says, “and most don’t look like they work out regularly.”

“If you have an epidemic of obesity, an aging of the population, and increased stress and stress hormones,” says Dr. Montori, “all those things should go hand in hand with loss of testosterone on average in the population.”

That’s why even supporters think testosterone

therapy is only meaningful if it triggers men to do what’s right for their health. “I am not in any way advocating the use of testosterone for treating obesity,” Dr. Morley says. “The risks don’t seem reasonable to me.”

Dr. Miner agrees: “Testosterone without exercise and diet or lifestyle change is of very little value.” Treating obesity could entail showing men the biology behind their bellies and how it influences their T. The rest might just come down to needing an expert ear.

“Many of my patients finish our conversations crying,” says Dr. Montori. “Maybe it’s a college professor making mistakes while teaching and wondering if he is getting Alzheimer’s. That’s life, not low testosterone. It’s the fear of death.

The fix to that, for a doctor, is to listen. Can you prescribe someone a hug? We can’t expect doctors to fix all these existential problems, and the costs for health care are going to keep going up.”

“Small changes can make a big difference when guys learn how their bodies work,” adds Dr. La Puma. “If you tell guys the reason their testosterone is dropping is because of their belly fat cells, they go, ‘Really?’ Then if you tell them that their belly is not just a spare tyre but an active endocrine organ, men like to know that. We like to know how stuff works. It helps to know that their belly fat is breaking them, that it’s a fixable problem.”

Specifically: It’s fixable without turning to a shot of testosterone. ■

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WHAT'S WRONG WITH

ROBOTIC SURGERY

THEY WERE SUPERHUMAN MACHINES. PATIENTS DEMANDED THEM.
DOGS SIGNED ON. THEN THE RESULTS CAME IN.

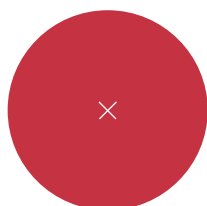
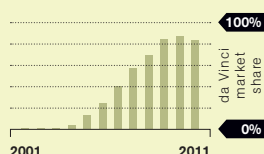
report

BY LAURA BEIL /
TYPE ILLUSTRATION BY CRAIG WARD



THE RISE OF ROBOTS

In 2001, da Vinci robots did fewer than 1 percent of all prostatectomies. They now perform 83 percent of about 60,000 surgeries annually. Error rates have risen too.



CHARLES WHITLOW

NEVER THOUGHT

MUCH ABOUT ROBOTS.

THEN A TUMOUR GREW

ON HIS PROSTATE.

Whitlow just wanted to be rid of the diseased gland and return to running the Dirt Road BBQ, his burger-and-catfish house off County Road 388 in Cusseta, Alabama. His doctor had begun performing surgery with something called the da Vinci Surgical System, a \$1.5 million apparatus that promised the precision of a human surgeon and the arms of a Transformer. Instead of stooping over an operating table, a surgeon using this device sits at a video console, using joystick-type controls and foot pedals to cut, excise, and repair. With small incisions, minimal blood loss, easier access to body cavities, and a grip steadier and more nimble than a human hand, the da Vinci held the promise of speedy recovery with fewer post-op complications than traditional surgery. As it was presented to him, robotic surgery sounded simple, Whitlow says. "As if more or less a monkey could do it."

On December 1, 2010, Whitlow's prostate removal began just like any other at East Alabama Medical Centre. At one point, however, something went wrong. According to a lawsuit Whitlow filed, an arc of electricity leaped from da Vinci's robot instrument and seared him severely. He spent 11 hours in the OR. The exact circumstances of the burn are being contested in court, but the consequences to 67-year-old Whitlow remain undisputed: relentless pain, incontinence, and a shaken faith in the medical system.

In 2005, fewer than one in four prostatectomies were performed by robot. Today, if you have a prostate tumour, it's likely a robot will go after it. Intuitive Surgical, Inc., the manufacturer of the da Vinci system, is now sewing up as much of the country's remaining market as it can, installing surgical robots even in community hospitals with fewer than 200 beds. Pleased with the rise in popularity of robotic prostate surgery, hospitals are now boasting about using robots for a long list of other procedures, with the same enticement that attracted Whitlow: easier surgery, fewer negative outcomes.

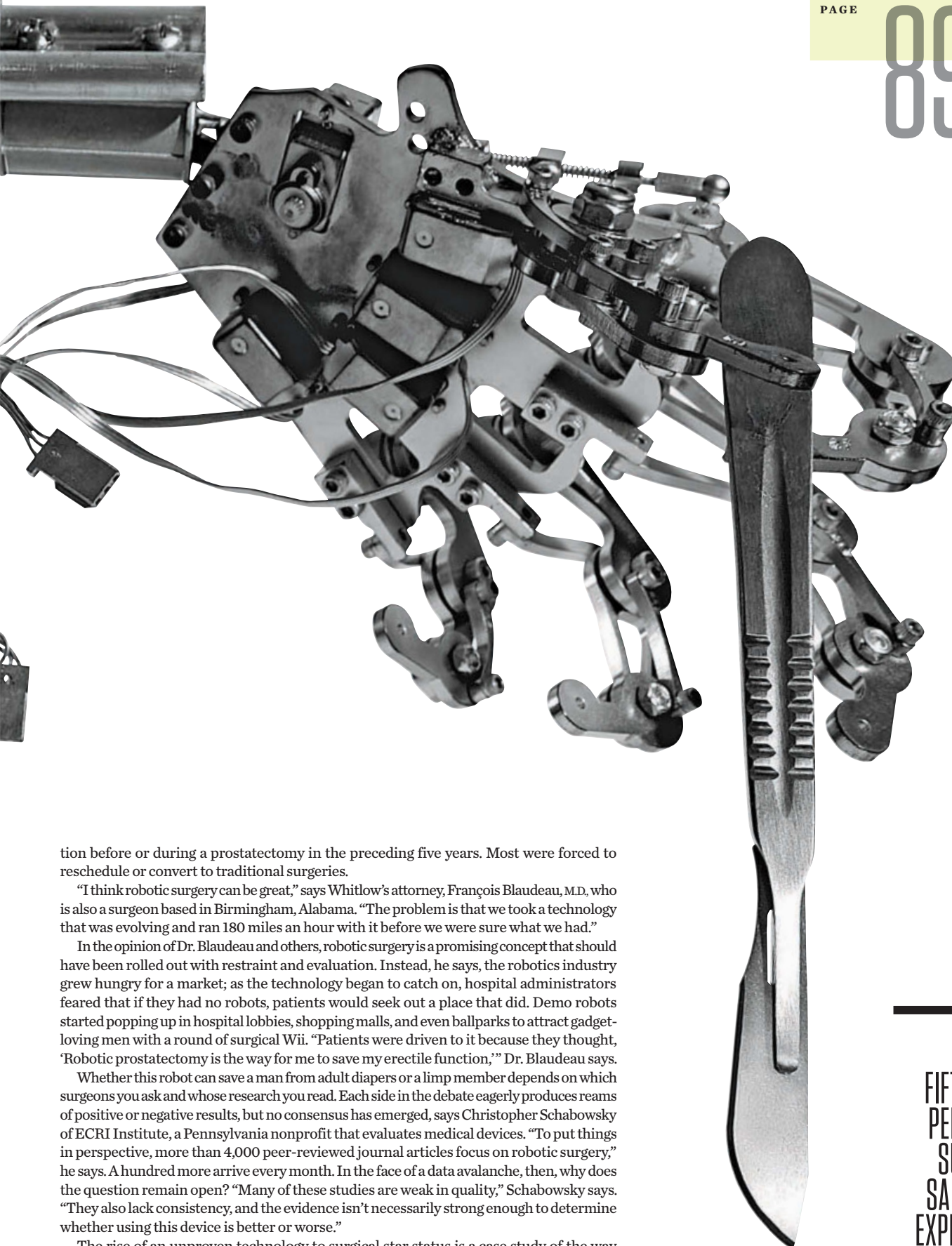
It does sound promising: precision machines displacing fallible human beings, operating in the most sensitive areas. But a growing number of practitioners—and patients like

Whitlow—worry that the robot revolution came before the advantages were proven, and that marketing, not medicine, has led the charge. Others question whether the astronomical price of these robots (ultimately added to your rising insurance premium) justifies their uncertain benefits in an era of runaway health care costs.

In 2013, these concerns coalesced in a sternly worded letter sent by the FDA to Intuitive Surgical. The FDA's complaint: The company had not adequately informed the government about device malfunctions and recall efforts. Reports of injuries last year shot up to more than six times the total of any previous year, and reported deaths rivaled that of the previous five years combined—a spike the company attributes in large part to ads drumming up business for malpractice lawyers.

But this isn't just litigators looking for work. Last August, Johns Hopkins University published research in the *Journal for Healthcare Quality* suggesting that complications from robotic surgery are underrecognised, with some incidents not reported to the FDA until after media coverage appeared. Plus, in an anonymous survey, 57 percent of surgeons said they had experienced a robot malfunc-





tion before or during a prostatectomy in the preceding five years. Most were forced to reschedule or convert to traditional surgeries.

"I think robotic surgery can be great," says Whitlow's attorney, François Blaudeau, M.D., who is also a surgeon based in Birmingham, Alabama. "The problem is that we took a technology that was evolving and ran 180 miles an hour with it before we were sure what we had."

In the opinion of Dr. Blaudeau and others, robotic surgery is a promising concept that should have been rolled out with restraint and evaluation. Instead, he says, the robotics industry grew hungry for a market; as the technology began to catch on, hospital administrators feared that if they had no robots, patients would seek out a place that did. Demo robots started popping up in hospital lobbies, shopping malls, and even ballparks to attract gadget-loving men with a round of surgical Wii. "Patients were driven to it because they thought, 'Robotic prostatectomy is the way for me to save my erectile function,'" Dr. Blaudeau says.

Whether this robot can save a man from adult diapers or a limp member depends on which surgeons you ask and whose research you read. Each side in the debate eagerly produces reams of positive or negative results, but no consensus has emerged, says Christopher Schabowsky of ECRI Institute, a Pennsylvania nonprofit that evaluates medical devices. "To put things in perspective, more than 4,000 peer-reviewed journal articles focus on robotic surgery," he says. A hundred more arrive every month. In the face of a data avalanche, then, why does the question remain open? "Many of these studies are weak in quality," Schabowsky says. "They also lack consistency, and the evidence isn't necessarily strong enough to determine whether using this device is better or worse."

The rise of an unproven technology to surgical star status is a case study of the way medical devices are adopted in the United States. Today's da Vinci robot began as a military-backed research effort to find a way to remotely operate on wounded soldiers. In 1995, Fred Moll, M.D., a doctor working for the medical-device manufacturer Guidant,

FIFTY-SEVEN
PERCENT OF
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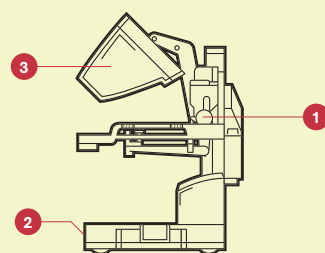
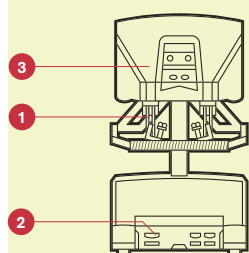
HOW A ROBO-SURGEON OPERATES

Robotic surgery involves plenty of moving parts. Here's how the surgeon console (top), which is controlled by the doctor, interacts with the patient cart (bottom), which carries out the operation.

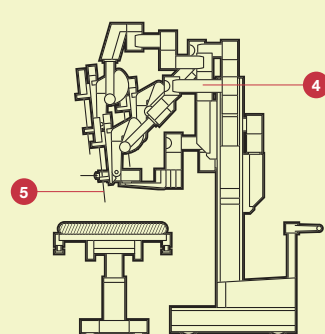
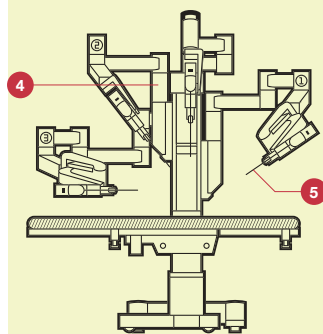
FRONT VIEW

SIDE VIEW

SURGEON CONSOLE



PATIENT CART



Hand (1) and Foot (2) Controls

The surgeon uses these to operate the robot. The hand controls help make surgeons ambidextrous even when they aren't normally, a UC Irvine study shows. But in a small FDA survey, doctors said that learning to work the foot pedals takes time to master.

Robotic Arms (4)

Using the controls described above, the surgeon positions the arms over the patient. They move more precisely and steadily than human arms, studies suggest. But in an FDA survey, surgeons said they wished the arms were smaller. They can collide or hit patients.

Eyepiece (3)

This magnifies the operating area by 10 times, in 3D. But in a Cleveland Clinic study, the optical system was the second most common part to malfunction. Rarely, the eyepiece can lose focus midprocedure, leaving the doc to carry on blurry or fix it on the fly.

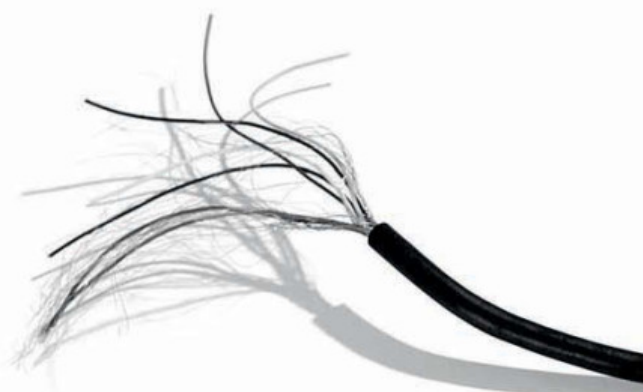
Operating Instruments (5)

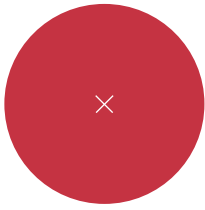
These are the surgeon's tools. A study from UC Irvine suggests that they're gentler on tissue than some instruments used in open surgery. But the tips are the instrument parts that break most often, say researchers at the University of Washington. —JULIE STEWART

saw a demonstration of a prototype. Inspired, he recruited two other cofounders to create Intuitive Surgical, which remains the only seller of robotic devices for soft-tissue operations. The first-generation da Vinci robot was cleared by the FDA in 2000 for general laparoscopic surgery based on data from two procedures: gallbladder removal and gastroesophageal reflux disease surgery. The green light came after Intuitive presented clinical data showing that the robot, when used by a trained surgeon, was as safe and effective as other laparoscopic devices. The law required only that the company prove da Vinci to be no worse than other methods. There was no mandate to demonstrate any benefit.

Within a year, even before Intuitive had been cleared to do so, it was angling for prostate business. The reason, says its chief medical advisor Myriam Curet, M.D., is that surgeons wanted an alternative to making 6-inch incisions in their patients. "When the company was first starting out, the plan was to do cardiac surgery. It was our urologist who saw the system being used and thought the robot would enable him to do a minimally invasive prostatectomy," she says. "The surgeons came to us."

As the market expanded, the popularity fed on itself, says Paul Levy, a former CEO of Beth Israel Deaconess Medical Center in Boston. "You have doctors going to conferences saying, 'This is the best thing I've ever seen!' And off on the side, they're





quietly saying to colleagues, 'Plus, I'm getting a lot of business I didn't used to have.'

When Beth Israel Deaconess's own doctors requested that the hospital buy them a robot, Levy says, they admitted that they did not think it would improve their outcomes, which were already impressive. But when technology is driving the market forward, practitioners want to move with it. So had he not invested in da Vinci robotics, Levy would have faced a white-coat revolt. "I would have lost my urologists," he says.

BY 2008, THE SAME YEAR LEVY'S HOSPITAL BOUGHT ITS EXPENSIVE ROBOT, Intuitive sales reps were being deployed across the country. Their mission was to not only sell units but also convince doctors to switch from traditional "open" surgery to "dVP"—da Vinci code for prostatectomy by robot. An internal campaign urged them to "drive dVP to standard-of-care in every market" and to foster "a competitive landscape between hospitals and surgeons." An internal e-mail reminded reps to lobby surgeons to convert traditional procedures to robotic ones. "Be proactive in finding cases to convert," it read. "Challenge each trained surgeon every time you see a [laparoscopic] or open case." The strategy was remarkably successful. Today, by the company's estimation, robots perform more than 80 percent of prostatectomies.

So has the robot become so popular because doctors truly think it's better for patients, or because having the latest gadget lures customers? It's actually a little of both, says ECRI's Schabowsky. A substantial number of surgeons, especially younger ones who grew up zapping alien invaders in video games, believe the robot takes surgery to the next level, he says. The hospitals and surgeons don't want to be left out of a hot and lucrative technological trend. Then there are the patients themselves, he says. They

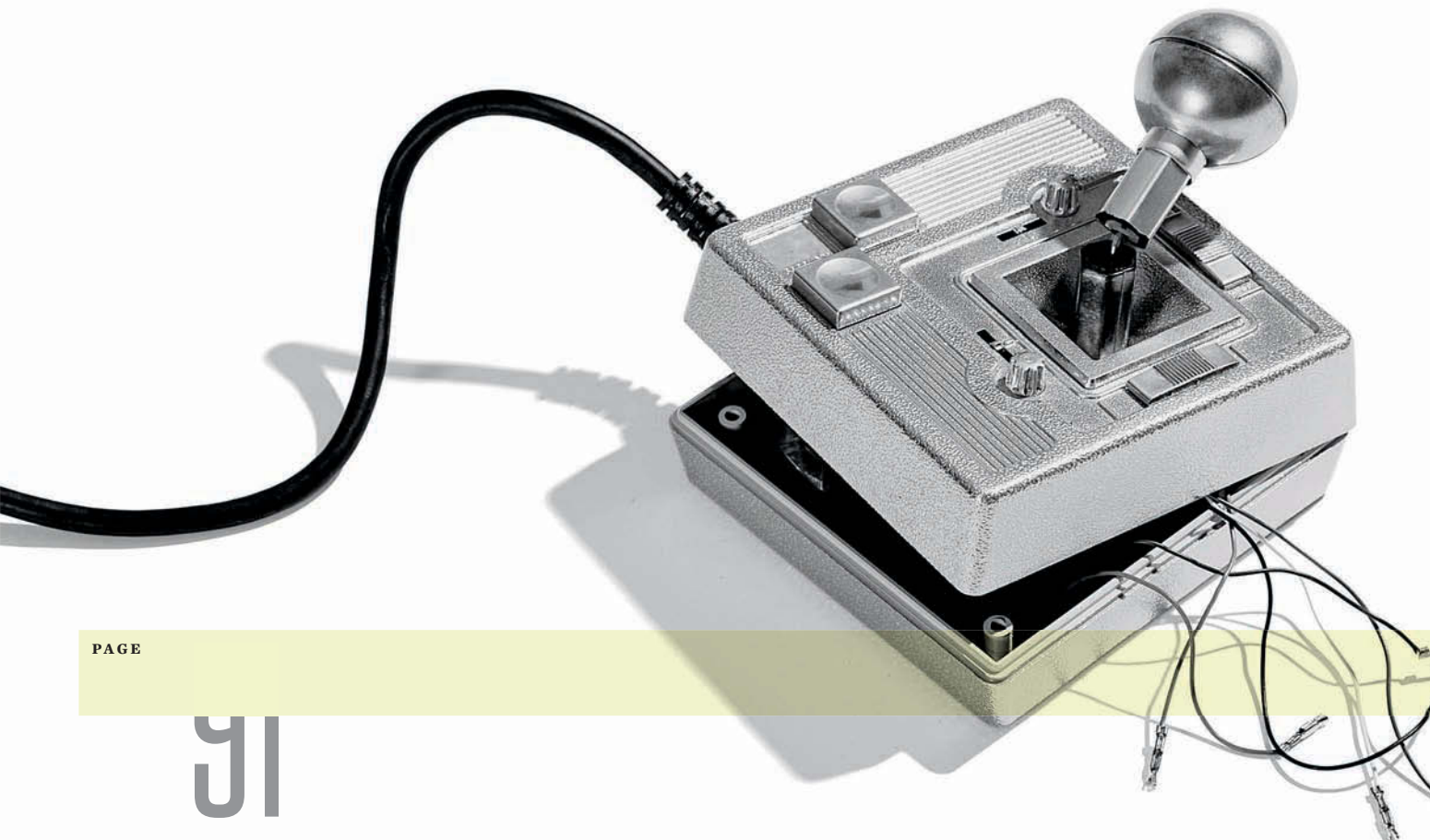
want a surgical robot "because they think that if it's a new toy, it's going to give them better surgical outcomes."

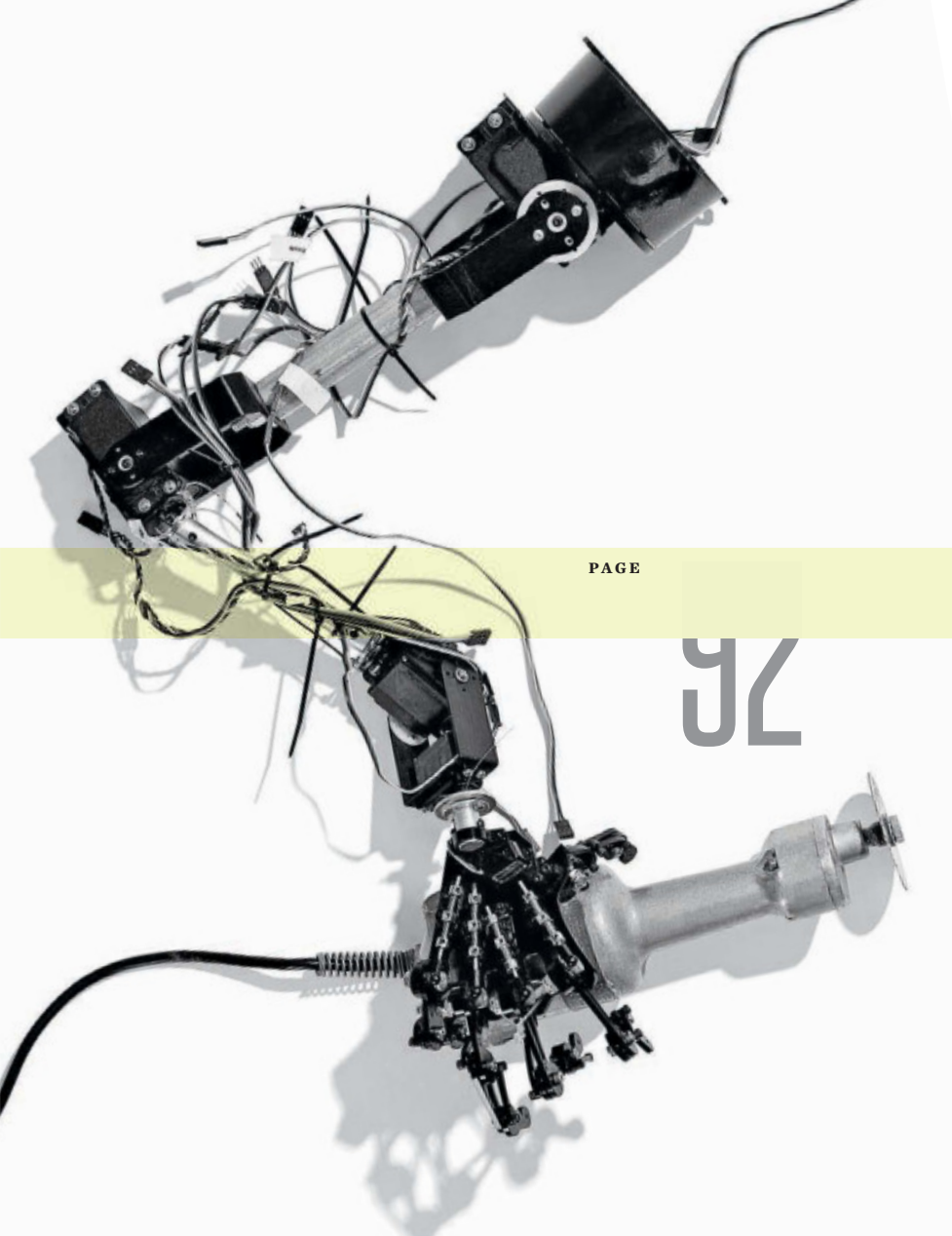
It's not hard to find surgeons who want the toy too. "The fact is, it's a smaller incision, less pain, and a more rapid recovery," says Jim Hu, M.D., of UCLA's department of urology. "Some [traditional] surgeons would argue that the discomfort or the relative pain is no different, but having done both surgeries, I know there is a difference." Atlanta-based urologist Scott Miller, M.D., who performed his first robotic prostate removal in 2003, adds that the system is also less taxing for surgeons. "Anything that makes things physically easier for me really allows me to do what humans are best designed for, and that's judgment."

But both of those doctors admit that much of the quality depends upon the experience and skill of the person manipulating the robotic tools. During a malpractice case tried last year on behalf of a Washington State man who died from a botched robotic prostatectomy, much of the plaintiff's argument came down to the fact that it was the doctor's first unsupervised run with a robot. Lawyers tried unsuccessfully to persuade the jury that the company knew the doctor's skills were lacking but pressured him to use it anyway. (The case is on appeal.)

Early on in Intuitive's sales push, training for the robot was scaled back from three days to one—in the name of efficiency. (According to plaintiffs' attorneys, no urologist has ever failed the course.)

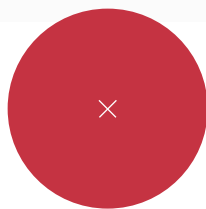
CUTTING TIPS
TEND TO
BREAK FIRST.
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TO FAIL.





PAGE

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The fine-tuning would occur on actual patients in supervised operations. Dr. Miller believes that one reason safety concerns are growing is that some surgeons are using the robots before they're fully trained to do so. "Whenever you have more people doing something, you're going to have more diversity and experience levels," Dr. Miller says.

The dilemma for a patient is that there's no magic number of surgeries you want a doctor to have under his or her belt before you allow that machine anywhere near your groin. To gauge the learning curve, FDA officials recently interviewed robotic surgeons. "One respondent who performed several hundred cases in a year using the da Vinci Surgical System during a fellowship did not feel proficient in the use of the device until after performing the first 40 to 50 procedures," notes the FDA report. Dr. Hu puts the learning period at about four or five years. "I did a fellowship where I assisted with 400 cases, and I thought I was really good," he says. But when he took the time to examine his data in detail, he realised that his proficiency had taken years to mature.

Says Dr. Miller: "Patients expect their case to be done robotically," he says. "Sometimes the medical profession succumbs to those pressures."

DR. HU PREDICTS THAT PROBLEMS WITH undertrained surgeons will diminish as the next generation of urologists completes residency with years of robotic training rather than a weekend practice run on pigs. That still leaves questions about the robot itself. Reports of injuries, parts recalls, and product malfunctions have surged over the past year. For example, from 2008 to 2011 the FDA received about 1,600 reports of malfunctions with the robotic surgery machines. But in 2012 alone, malfunctions exceeded 1,200; in 2013, following an FDA inspection, that number jumped to over 4,000. This prompted some Intuitive stockholders to file a class-action suit, alleging that the company tried to downplay the product's risks.

Company officials now say that the apparent alarming increase in 2013 device malfunctions and even recalls simply represents catch-up from past years. Their own analysis of overall adverse events has found that when the events are sorted out by the date of occurrence rather than date of report to the FDA, the annual number has fallen.

Until early 2013, all of this was supposed to be an anecdotal problem, says Javier Bleichmar, the New York attorney who's leading the class-action suit. In other words, the argument went, despite noise from patients (and their loudmouthed lawyers) about malfunctions and injuries, statistics told a different story and the robots were actually performing well. "The company very often says, 'Every medical device has product-liability problems.' We completely would agree with that. But what we're finding, based on the change in reporting, is that the numbers are massive."

One of the biggest concerns the suit cites has to do with "tip covers," the insulation at the end of scissors that attach to a mechanical wrist. These can develop small tears when doctors scrape gunk off during surgery. (They're not supposed to do this, but it's the quickest way to clean an instrument.)

Intuitive realised a few years ago that breaches in tip covers posed a burn threat. The company developed tougher replacement tips and in 2011 sent a reminder to hospitals about proper tip-cover care. But company officials did not feel the problem was significant enough to trouble the FDA with it. After an audit, the FDA disagreed—not only with Intuitive's decision not to alert the agency to tip-cover deficiencies but also with its failure to keep the FDA in the loop on notifications it had been sending to robot owners.

Even if you assume that risk levels will eventu-



QUERY YOUR ROBO-DOC

Urologists Jim Hu, M.D., and Scott Miller, M.D., suggest four things to ask.

1

WHY DO I NEED TO HAVE SURGERY NOW?

Research shows that for many men with prostate cancer, postponing treatment causes no harm.

2

HOW MANY ROBOTIC SURGERIES HAVE YOU DONE?

The more the better. Just be aware that the doctor's estimated number may be somewhat subjective.

3

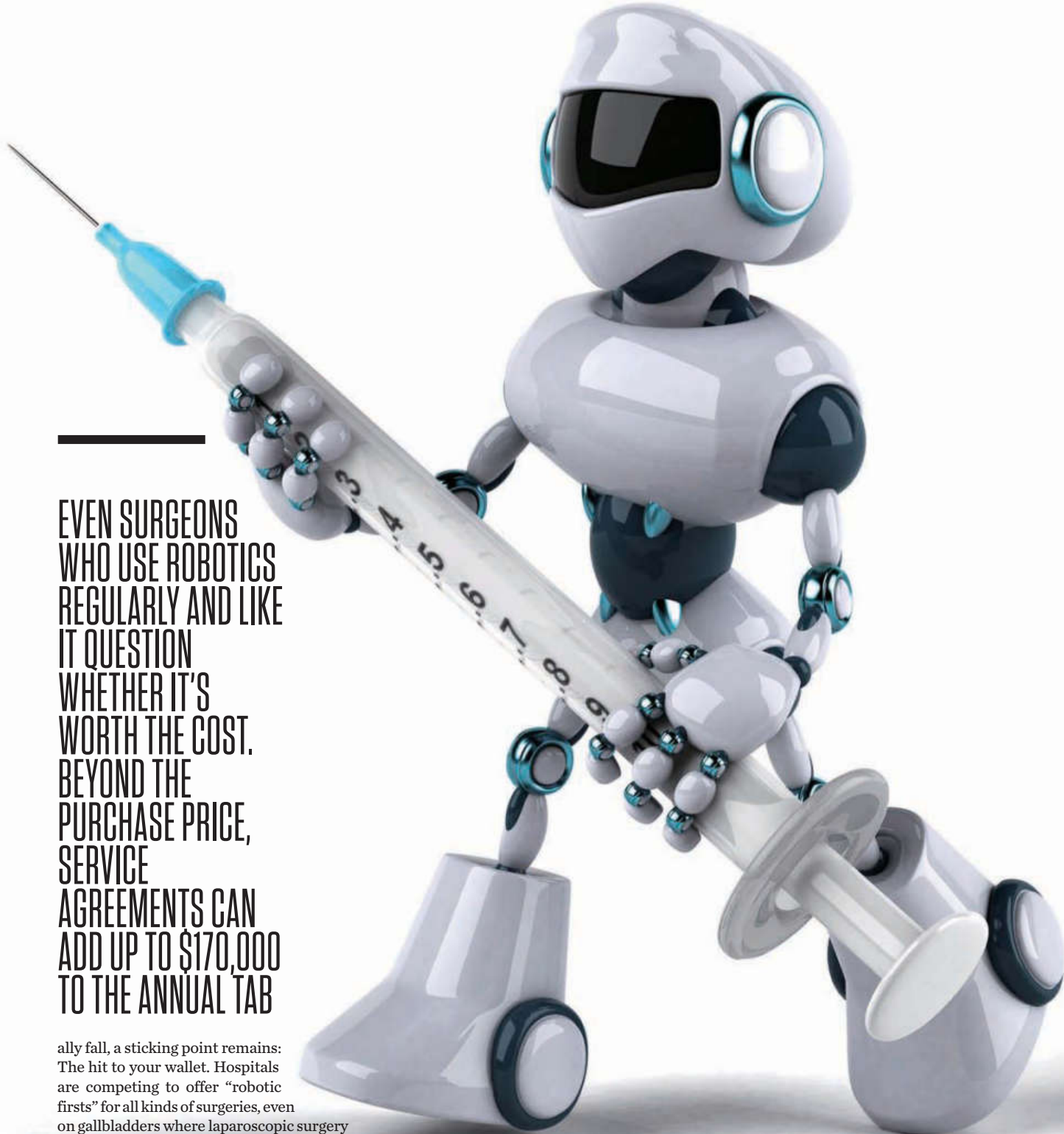
WHEN WERE YOU TRAINED TO USE THESE DEVICES?

Generally, a surgeon trained longer ago has spent more time perfecting the craft, notes Dr. Hu.

4

DO YOUR PATIENTS OFTEN HAVE SIDE EFFECTS?

If your doctor doesn't know those rates of incontinence and ED, find a new doctor. —LB.

A white and blue robot with a large black visor and glowing blue eyes is holding a large medical syringe. The syringe has a blue plunger and a needle. The robot is standing on a white surface with a soft shadow. The background is white.

EVEN SURGEONS WHO USE ROBOTICS REGULARLY AND LIKE IT QUESTION WHETHER IT'S WORTH THE COST. BEYOND THE PURCHASE PRICE, SERVICE AGREEMENTS CAN ADD UP TO \$170,000 TO THE ANNUAL TAB

ally fall, a sticking point remains: The hit to your wallet. Hospitals are competing to offer “robotic firsts” for all kinds of surgeries, even on gallbladders where laparoscopic surgery already has a low complication rate, says Marty Markary, M.D., of Johns Hopkins Hospital in Baltimore. “Here’s an expensive new technology with a massive price tag,” he says, but the benefits are unclear. “This is exactly the story of what’s wrong with American health care.” The cost is passed down the line until you, the health care customer, pay it, in the form of higher bills and insurance premiums.

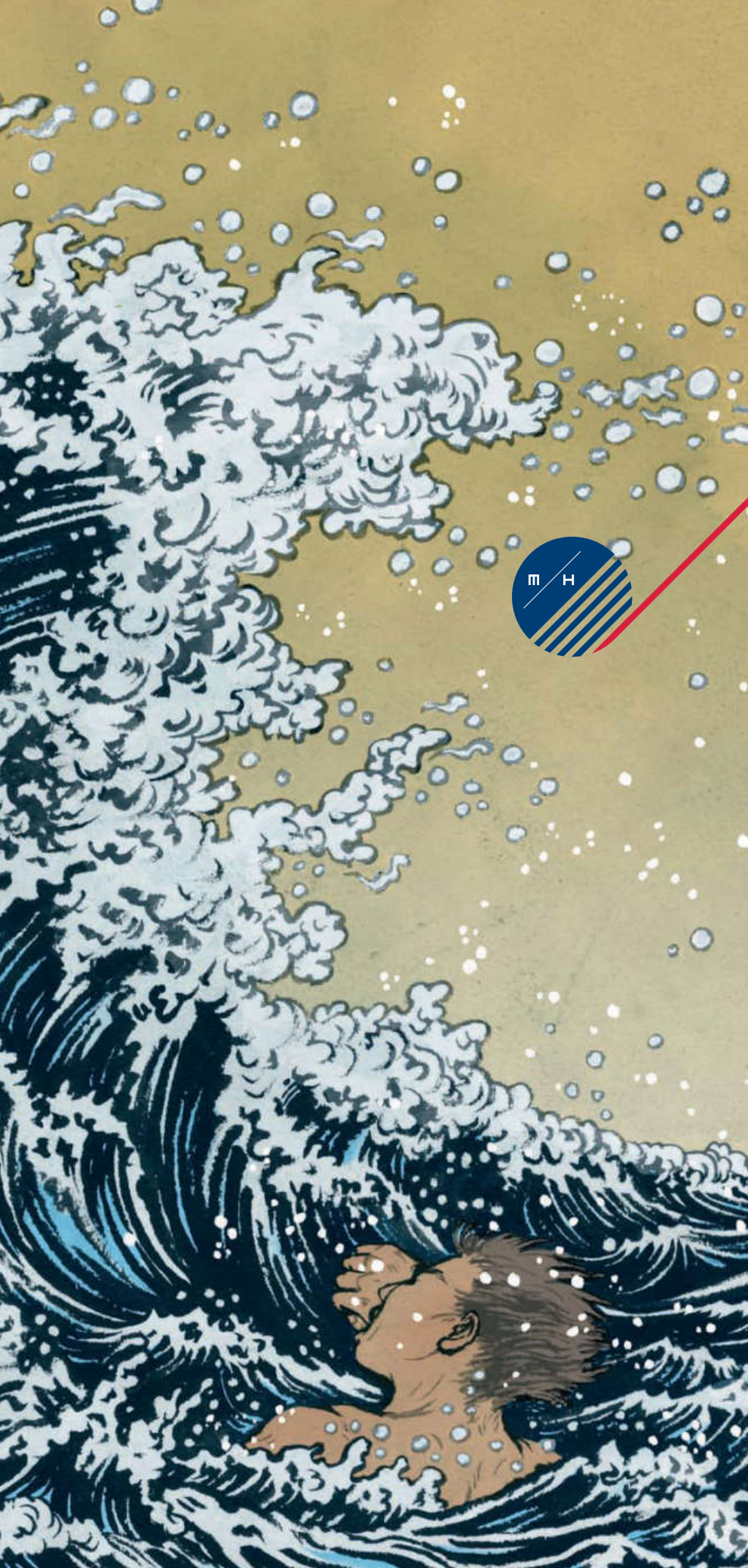
Even surgeons who use robotics regularly and like it question whether it’s worth the cost. Beyond the purchase price, hospitals must also sign a service agreement that can add as much as \$170,000 to the annual tab. And they have to buy replacement

instruments, which have a fixed number of uses regardless of whether they are actually worn out. As an example, Yair Lotan, M.D., a Dallas surgeon, mentions the robot’s needle driver. “It doesn’t rust. It just has to hold a needle. The robot counts, and after 10 uses it doesn’t work,” he says. “No surgeon thinks it’s rational, but there’s nothing you can do.”

American medicine has a history of embracing new technology first and asking questions later, Dr. Lotan says. “Our health care system is in financial distress, and it’s important to understand why. Doctors are removing gallbladders robotically, and it makes no financial sense. At some point as a society, we have to say, ‘We’re spending this money, and what are we getting?’”

With robotic surgery, the answer may come too late to matter, he says. No one is going back. “Maybe with the next technology we will evaluate the cost-effectiveness prior to adoption.”





By Jim Thornton
Illustrations by
Yuko Shimizu
P.95

The ocean should
be a veritable playground,
but for men it's a
potential death trap.

The risks are monumental
and mount as the beach season
approaches. Read this
before you dive in.

in
over

our

heads



On Sunday morning, April

29, 2012, Ravi Thackurdeen caught his first glimpse of the neon blue waters of Playa Tortuga, a secluded beach on Costa Rica's Pacific coast. The weather was paradisaical: cloudless and balmy and bathed in trade winds. Offshore, waves crashed on a submerged shelf where the depths of the ocean suddenly surrender to shallower water. / Thackurdeen, a 19-year-old premed student at Swarthmore College in suburban Philadelphia, was celebrating his last day of a dream semester abroad. One of 17 students chosen nationwide to conduct field research in Costa Rica, he'd spent months trekking the rain forest, collecting plant specimens and analysing the compounds found in the smoke of different tropical woods. His work promised to reduce respiratory illness among the indigenous Ngöbe people, who rely on open wood fires to cook their meals. The experience had changed his life.

When Thackurdeen's group arrived that morning, they found no lifeguards or warning flags. Nor were any locals around to say what everyone who lived there knew: For all its beauty, Playa Tortuga is a treacherous place to swim. Several hundred yards to the south, one of Costa Rica's largest rivers, Rio Grande de Terraba, spills out into the Pacific, churning a chaos of invisible turbulence beneath the surface. On the beach's north end, a jungle-covered cliff extends like a natural jetty, further complicating the ocean floor topography and unpredictable currents.

Thackurdeen was a decent swimmer. He'd taken his first lesson at age 4, and in his freshman year at Swarthmore he'd easily passed the university's mandatory swim test. But he'd also grown up hearing about how his grandfather nearly drowned in a rip current. Thackurdeen's mother, Ros, had watched this happen as a child in Trinidad. Years later, after she'd moved to New York and started a family of her own, she made sure her kids heard the cautionary tale over and over again. As a result, they never swam in the ocean, only in guarded pools.

It's impossible to know if Ravi Thackurdeen was thinking of his grandfather that April morning. But for his first two hours at Playa Tortuga, witnesses recall, he never went close to the ocean.

AFTER CAR WRECKS, ACCIDENTAL POISONINGS, AND MURDER, nothing kills more healthy young American men than drowning. Fourth place on the Reaper's Hit Parade might seem relatively

trivial, but consider this: Research presented at the 2011 World Conference on Drowning Prevention revealed that drowning stats culled from the general population seriously understate the danger. Most adults are never or very rarely exposed to bodies of water, and thus have practically zero risk of drowning. But when the researchers focused exclusively on active folks who do swim, and made adjustments for exposure time, the calculus shifted dramatically: Each hour spent in water is *two hundred times* more likely to prove deadly than an hour cruising the highway.

As with other lethal misadventures, the Reaper reeks of gender bias. The CDC reports that between infancy and old age, nearly four times as many men as women drown each year in the United States. Worse, during the high-risk years of adolescence to early adulthood (i.e., 15 to 24), when testosterone begins to turbocharge our masculine penchant for risk taking, we leave women high and dry, outdrowning them by a ratio of 9 to 1.

This toxic combination of T and H₂O was first confirmed in a classic study from Boston University titled "Why are most drowning victims men? Sex differences in aquatic skills and behaviors." After surveying 3,042 men and women ages 16 and older, the researchers determined that men spend more time than women do in all aquatic environments, and much more time engaged in high-risk activities, from surfing and scuba diving to jet-skiing and ice fishing. Men are also significantly more likely to swim in natural bodies of water—rivers, lakes, and oceans—which are three times more deadly than swimming pools, according to CDC mortality stats. Combine all these facts with our greater propensity to swim solo, at night, and in unguarded waters, and it's surprising that more of us don't end up dead.

Of course, we can thank lifeguards for saving so many of our reckless asses. But that just highlights how foolhardy men are to swim when a whistle-blower isn't around. Data from the United States Lifesaving Association (USLA) shows that five out of six open-water drownings occur on unguarded stretches of beach. By contrast, the chance of drowning while protected by guards trained to USLA standards is less than one in 18 million.

Part of the problem is that many guys have inflated notions about their swimming prowess. "Men of all ages, races, and educational levels consistently reported greater swimming ability than women," the CDC noted. The evidence that this confidence is actually warranted is suspect at best. As the Boston University survey found, even though 93 percent of men claim to know how to swim, only 53 percent of male swimmers had actually taken swimming lessons.

This perception-versus-ability gap widens even more among the legions of guys who admit to regularly entering the drink drunk. In a 2013 study published in the journal *BMC Public Health*,

Essential Summer Skills



Help a Kid Conquer the Ocean: An Olympian's Plea

Seventy percent of African American kids can't swim. I used to be one of them—and nearly drowned at a water park. After that, my mom made me take lessons at the Y. I'my talks for USA Swimming's Make a Splash initiative, I say it's important to help kids feel comfortable in the water. But let a pro teach them to swim. U.S. Olympic swimmer Cullen Jones, as told to Jim Thornton. To learn to swim in Dubai, try Fit Republic, The Hamdan Sports Complex, or Hamilton Aquatics.

researchers in Sweden investigated accidental drowning deaths that occurred over 18 years and determined that nearly half of all male victims had some alcohol circulating in their system. So just as men are more likely than women are to drink and drive, they are apparently also much more likely to drink and drown.

Tragically, if not surprisingly, this problem is more severe for the young bloods. Thirty-three percent of guys in the Boston University survey admitted to drinking on their most recent “aquatic activity day,” with the 16- to 25-year-old portion averaging over eight drinks. Alcohol also pushes their risk-taking behaviors to the next lunatic level.

“Beer has long been associated with courage,” says Gary Wise, an Aussie lifeguarding legend who moved to Florida as a PGA golf pro and eventually became beach safety director for a vast swath of the panhandle’s Emerald Coast. “But it’s even more associated with poor decisions. There’s no end to the stupid things I’ve seen drunken guys do over the years.”

As the old quip suggests, the five deadliest words in the English language for men are these: *Hold my drink. Watch this.* “Thanks to our trash-talking culture, GoPros, and YouTube,” says Wise, “there’s even more incentive for men, whether drunk or sober, to show off their ‘skills’ in the water.”

Inebriation, overconfidence, showboating: These aren’t the only factors that can get you in over your head fast. Equally important, experts say, is widespread ignorance about a handful of common but woefully underpublicised aquatic assassins. When obliviousness to such threats lures you into decep-

tive waters, chances are you’ll need both help and luck to escape oblivion.

Y 11 A.M., THE HEAT AND HUMIDITY AT PLAYA Tortuga had cranked up considerably. For two hours, Ravi Thackurdeen had played beach soccer with his friends. Sweaty and exhausted, and with no shade trees to provide relief from the sun, he and a female college friend finally decided to rinse off in the Pacific.

Brian Simmons, 28, arrived just minutes

“Thanks to our culture, men like to show off their ‘skills’ in the water.”

after Thackurdeen and his friend entered the sea. A Boston native with a master’s degree in early childhood education, Simmons had moved to Costa Rica four months earlier to teach English to first and second graders. Nearly every day since then, he’d made the short hike to the beach from his rental house to relax and occasionally surf. Self-taught during his childhood summers on Cape Cod, he describes himself as a decent but hardly expert surfer. That Sunday morning, he’d neglected to bring his board but didn’t regret it. “It was an abnormal swell, definitely the biggest I’d ever seen there,” Simmons recalls.

He was also struck by how many people were already at the beach—at least 15, he says—which was quite a throng, given how many times he’d found himself there alone. He dropped his towel and headed toward the ocean.

Just as he began wading in, he spied a young couple 20 yards farther out. It was, he would later learn, Thackurdeen and his friend, now standing side by side in neck-deep water. Moments later, Simmons watched as a huge wave broke over their heads, submerging and separating them.

When they surfaced, the wave’s force had tumbled the woman closer toward shore, but somehow Thackurdeen was left behind in its wake. To Simmons, it looked as if an invisible river was dragging the man farther out toward the point where it would soon be too deep to stand. Both students began yelling for help.

On the beach, worried onlookers searched for rescue equipment but found nothing. The wave had pitched the girl close enough to shore for several tourists to wade out and pull her to safety. But Ravi

(Stock shark)

**Surf’s Up!
Man Down!**
Unless you’re planning to stay beached this season, approach the ocean with this dose of reality and an ounce of prevention.

Two Life Preservers Every Man Should Carry in His Head



How to Spot a Rip Current

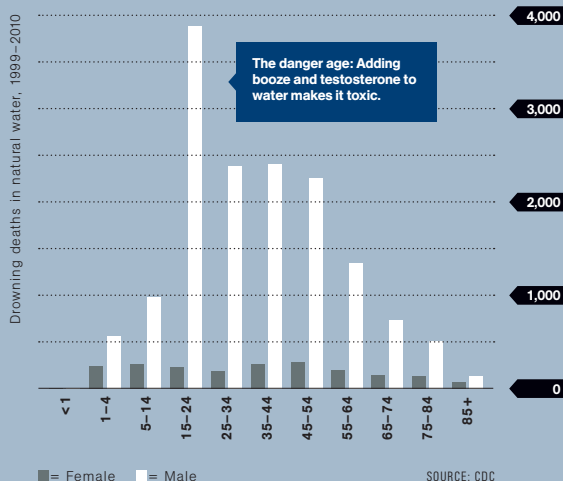
Before you dip a toe in, scan the surf for any of these clues: a channel of churning, choppy water; a change in water color; a break in the incoming wave pattern; or a line of seaweed or foam moving out to sea.



How to Escape a Rip Current

Your instinct will be to swim straight in, but the current is too strong. Instead, move parallel to the shoreline. Can’t break the grip? Let yourself be carried out of the current, and then swim left or right to safety.

Drowning in the Gender Gap



F

EW FORCES OF NATURE ARE AS DANGEROUS AS water in motion. A cubic meter of ocean weighs 2,264 pounds—the equivalent of four Harley-Davidson Sportster SuperLows. Knee-high water, if it's moving fast enough, can chop-block a man of any size off his feet.

Tsunamis, class V rapids, the gnarly rollers so beloved by surfers: There's no shortage of natural phenomena that can turn water spectacularly lethal. But in terms of the sheer number of open-water victims affected, one threat dwarfs the rest, triggering more lifeguard rescues than any other single factor: rip currents. In data collected since 1994, the USLA consistently shows that rip currents are behind more than 80 percent of all rescues at surf beaches. In some areas, such as the California coast, this figure climbs to a staggering 90 percent.

"Anytime waves break on shore, or if water is subjected to wind over an open body of water, like a lake, the water has to return to its origin, and it takes the path of least resistance," explains Wise. "This is usually through a slightly deeper channel that forms between sandbars." This outflowing water was once called an undertow—a misnomer that implies that swimmers caught in one are pulled *down*. In reality, they are pulled *out*.

Depending on the size of incoming waves, the topography of the ocean floor, and the prevailing winds, rip currents can move lazily or scary-fast. Their breadth from side to side can range from just a few yards to hundreds of yards, according to the National Oceanic and Atmospheric Administration. "Estimates also vary about how far out they go," says Frank Pia, Ph.D., a pioneering researcher in drowning and aquatic injury prevention. Though most rips may lose their punch relatively quickly, he says, under the right circumstances, they've carried people nearly a half mile offshore.

There's another key element that makes rip currents so dangerous to unsuspecting swimmers: their stealth. "Often you'll get waves breaking consistently and evenly in two places along the shore," explains Wise, "but in the channel between those spots, there can be no waves at all. To an untrained eye, this actually looks like the safe place to swim." In fact, it's the most dangerous because it's where outflowing water is returning to the sea. Wise knows firsthand how easily a swimmer can be fooled.

"If you're not wearing a life jacket, you're probably going to disappear."

"You go for a dip to cool off," he says, "and as long as you're wading in the same direction as the rip current, you're not feeling any danger."

But then you stop, and suddenly this surprisingly strong force is pushing you away from the safety of shore. Instinctively you try to reverse course and head back to land. Now you lose your footing, so you lurch in a half-swim toward the shore but realize that this only makes you lose more ground. Before you know it, the water is chest-high and you're being pummeled by waves.

"The smart thing to do here is just relax," says Wise. Instead of exhausting yourself by fighting the rip head-on, swim across it—not against it—until the current releases its grip. Then let incoming waves help bring you back to shore. Sadly, the last thing that panic recommends to a person is to go with the flow.

MOTION ISN'T THE ONLY FORCE THAT TURNS WATER deadly: Low temperature also profoundly boosts your odds of drowning. "Most people have no idea what suddenly falling into cold water does to them," says hypothermia researcher Alan Steinman, M.D., a retired rear admiral with the U.S. Coast Guard. By "cold water," Dr. Steinman isn't limiting the discussion to the Bering Sea or Minnesota's 10,000 lakes in January. The Coast Guard officially defines it as any water below 70°F—which includes waters off virtually the entire Pacific Coast throughout the year, and most Atlantic beaches, too, outside of a few summer months. Fall off a boat or dive off a dock into any of these waters, and there's a good chance you'll sink within seconds, a victim of "sudden drowning syndrome."

Illustrations (this spread) by JAMESON SIMPSON

Does the Ocean Have Your Number?

67

Percentage rise in men's drowning risk when it's 86°F or hotter outside

69

Among would-be rescuers who drown, percentage who are men

SOURCE: ROYAL LIFE SAVING SOCIETY • AUSTRALIA

40

Percentage rise in pool and natural-water drownings among men

SOURCE: CDC, 2000–2010

How to Prevent a Water Death



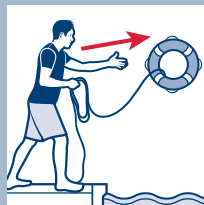
1/ Shout

Yell for someone to call 911 while you race to the rescue. "An adult typically has a minute before going under; a child has 20 seconds," says Dr. McLaughlin, the medical director for the wilderness medicine provider Adventure Doc.



2/ Reach

If the person is within arm's length of a pool deck or dock, lie face-down and parallel to the edge and spread your legs for stability, says Dr. McLaughlin. Then reach for his or her wrist. Too far? Extend a pole, oar, or even a towel.



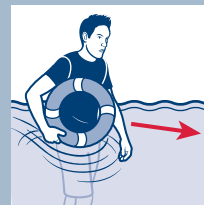
3/ Throw

Public pools and beaches often have emergency safety rings attached to long ropes. If you can't touch the person with a 10-foot pole, toss a ring (or two if your aim sucks) and tell him to grab on for dear life. Then reel it in.



4/ Row

If the ring toss fails, grab a boat, kayak, or surfboard, and set out. Tell the person to grab onto one side and then paddle back to shore. If he's Unresponsive, brace yourself and use the reach maneuver (#2) to get a grip on his body.



5/ Go

No boat? No prob. Are you a strong swimmer? Grab a towel and anything buoyant. Swim to the person and extend the towel—not your arm. "Even lifeguards have been drowned by those they tried to save," says Dr. McLaughlin.



The shock of cold immersion, Dr. Steinman explains, trips specialised nerve sensors in the skin of your chest. These nerves immediately relay signals to your brain, which, in turn, triggers the overwhelming urge to gasp. “And gasping for air becomes a real problem if your head is under water when you do it,” he says. “If you’re not wearing a life jacket at the time—and all too many guys aren’t—you’re probably going to inhale water and disappear.”

Water’s big chill will impair you in many other ways, too, and more quickly than you may realise. Cold water siphons body heat 25 times faster than air of the same temperature. Within minutes, you’ll lose fine motor skills; it will be impossible to untie your shoelaces, unbutton your shirt, and jettison other dead weight that’s dragging you down. Among other changes to your physiology, cold water slashes bloodflow to skeletal muscles and slows the nerves that ordinarily send coordinated marching orders to those muscles. For every 2°F drop in body temperature, you lose 5 percent of your maximal strength.

Meanwhile, as your body temp drops, so does your IQ. After a short-lived period of mental invigoration—the reason a bracing cold shower helps wake you in the morning—your cognitive abilities will quickly begin to decline. Even very mild hypothermia impairs such abilities as counting and short-term memory. The colder you become, the more fatigued and stupefied your

brain. “People become very disoriented in cold water,” says Dr. Steinman. “Sometimes they even swim down instead of up.”

MOST OF US HAVE TRIED TO SEE how long we can hold our breath underwater, whether to win a bet with our buddies or simply to show off for someone who probably wasn’t even paying attention. Whatever our macho motivations, we’ve all experi-

enced the same thing once submerged: The longer we hold our breath, the worse we feel. In 1878, the physician Roger S. Tracy, M.D., wrote that at somewhere between 60 and 90 seconds, a “most peculiar and intolerable kind of anguish” makes it impossible for most of us to resist the urge to resume breathing. There is, however, a way to delay this air alarm—and that’s where we get ourselves into trouble.

Before attempting his own underwater breath-holding PR, Kevin Huynh, a 26-year-old program manager from Colorado, did what all too many guys instinctively do in such circumstances—he hyperventilated. “I took a bunch of deep breaths,” Huynh explains, “and then followed them with one huge breath right before pushing off. My thought process at the time was to cram as much oxygen as possible into my system.”

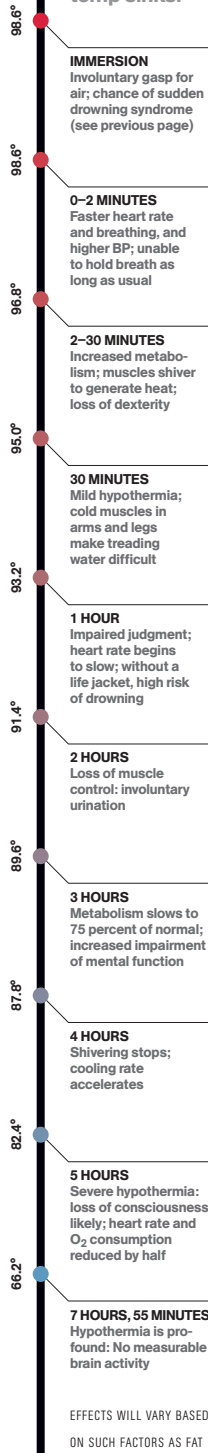
Huynh’s intuitive but misguided strategy seemed to work, at least at first. Swimming breaststroke, he traveled the first length of the pool underwater, swiveled around, and then pushed off for a second length. At this point he was starting to feel the need to breathe, but it was hardly a desperate urge, so he kept swimming. “I remember looking up through the water to try to see the backstroke flags,” he says, “but I couldn’t find them and I just kept pushing on.” His goal was at least 1¼ lengths under water. “And there was no way I was going to let myself come up a foot short. I remember telling myself that I’d be fine.”

But he wasn’t. A little past the halfway mark on his second length, and without any warning, Huynh suddenly stopped. Another half minute passed before observers realised what was happening and managed to pull his limp body back to the surface.

“I still get chills thinking about it today,” he says about his near drowning. The cause was a surprisingly common—and deceptive—reaction that can kick in anytime your body’s natural “anguish” sensors have been tampered with through hyperventilation.

All that vigorous huffing and puffing hardly crams any more oxygen into

Degrees of Drowning Fall into 50°F water, and here’s the fate that awaits as your body temp sinks.



your lungs than they’d otherwise hold, but doing that does lower your carbon dioxide level. That’s important because high CO₂, not a lack of oxygen, is what triggers your body to deliver that anguished call to “inhale now!” If you’ve artificially lowered your CO₂ level by hyperventilating, it may not rise high enough to make you surface for air until it’s too late.

“An underwater swimmer is often totally unaware that he’s headed toward a blackout,” says Claes E. Lundgren, M.D., Ph.D., a distinguished professor at the University at Buffalo and leading expert on respiratory physiology in specialised environments. “He’s swimming along fine, and then suddenly he stops and sinks to the bottom.”

If, unlike Kevin Huynh, you don’t have anyone watching when this happens to you, you can count on one thing: Your CO₂ will eventually build back up and force you to breathe again. But it will be water, not air, that you’ll be inhaling.

DESPITE THACKURDEEN’S BEST EFFORTS, THE RIP current soon swept him nearly a hundred yards offshore. Simmons knew he wasn’t strong enough to attempt a high-risk “direct” rescue—that is, using one arm to physically grab the victim and the other to swim them both back to shore. “Maybe earlier in my life, when I was swimming every day, I could have,” he says. “But in those conditions I knew I couldn’t reach him, let alone bring him back, without some kind of flotation.”

Determined to help, Simmons sprinted along the beach, desperate to find something that could provide buoyancy. Seeing nothing, he ran toward nearby shacks, and in broken Spanish pleaded for a raft, Styrofoam cooler, anything he could float on. Nobody was able to understand him. Running back to the beach, he spotted an unlocked car with two boogie boards in the backseat. He grabbed them, raced to the water, and started paddling out. Thackurdeen was now nearly 200 yards offshore.

Simmons soon realised that another man had joined the rescue effort and was swimming out with a small inner tube. Instinctively they began coordinating their efforts, swimming 20 yards apart to extend their search range.

“When we first entered the water, we could still see where Ravi was,” Simmons says. “But by the surf line, the waves were just too big. You’d go up and down, and every time we went over a swell, we’d try to see where he was but couldn’t. We could no longer hear him either. I don’t think he was capable of making noise at that point.”

All told, it took Simmons 35 minutes to battle the surf and swirling currents to reach the point where he still hoped Thackurdeen might be. But he never saw him again.

From shore, witnesses would later recount how tantalisingly close the two rescuers had come to reaching the drowning man, who appeared, in the last minutes, to be quietly treading to keep his mouth above the surface. Then he was gone.

DROWNING DOESN'T LOOK LIKE DROWNING, something researcher Pia first documented in footage shot during 21 swim seasons at New York's Orchard Beach. Pia, who was head lifeguard at the time, was the first to show that real-world drowning victims—unlike actors pretending to drown in Hollywood films—don't flail, scream, or otherwise sink after a violent, dramatic struggle.

Instead, he says, you exhibit what he's named the "instinctive drowning response." This set of involuntary behaviors is controlled by your autonomic nervous system. They're behaviors as innate as the reflex to jerk your hand from a hot stove. Among other actions, your arms involuntarily extend out from your sides and your hands press downward in an instinctive attempt to keep your mouth above the surface. Simultaneously, your torso becomes vertical in the water, your legs stop kicking, and you lose all ability to shout or even speak.

As a result, your final moments before submerging are silent and unspectacular. "It's not uncommon for drowning people to be surrounded by people close by who have no idea a drowning is even taking place," says Pia.

Regardless of how unremarkable the process appears to others, once the instinctive drowning response kicks in, you've become so exhausted that you have only 20 to 60 seconds more before sinking. Barring miraculous retrieval from the depths, submersion then sets off a physiological death spiral that follows its own inevitable course.



ASSUMING YOU'RE STILL conscious when you go under, your first reaction will be "voluntary apnea"—holding your breath as long as you can. Eventually, rising carbon dioxide levels in your blood will bring you to the breath-hold breaking

point, when the urge to breathe becomes too irresistible to ignore. It doesn't matter if you're under water when this point is reached: Nothing you do will stop you from inhaling. Researchers call this the "terminal gasp."

"When water comes down the airway," says Dr. Steinman, "your body will try to defend itself by slamming your vocal cords shut to keep water out of your lungs. A few revived victims even say they can remember the unpleasantness of trying to breathe against closed vocal cords."

Eventually, oxygen levels plummet so low that you lose consciousness and the laryngeal spasm finally breaks. If you're still alive at this point—and most victims are—nothing remains to prevent inhaled water from flooding your lungs. Regardless of whether this is fresh water or salt water, this incursion wreaks havoc with the tiny breathing sacs, called alveoli, where oxygen enters your blood and CO₂ leaves it.

"Alveoli look like microscopic grapes," explains

Dr. Steinman. Each one is coated by a special fat-and-protein substance called surfactant, which works like the soap in soap bubbles to keep the air sacs open. Fresh water, alas, renders the surfactant ineffective, and salt water washes it away. The net result is the same—multiple alveoli end up collapsing, making them unable to infuse your blood with oxygen. Water in the lungs also damages the mesh of capillaries surrounding the alveoli, causing them to leak. Viscous protein-laden blood plasma leaves the bloodstream and enters the lungs, further reducing the amount of viable lung tissue remaining.

If a victim is rescued in time, the one-two punch of collapsed alveoli and fluid buildup make resuscitation challenging at best. "The combination creates a severe hypoxia condition that has to be corrected," says Dr. Steinman. "You have to use suction to remove the pulmonary edema fluid and just hope there are still enough noncollapsed alveoli remaining for the victim to absorb oxygen."

Few lung-flooded victims, however, survive long enough to face such a dilemma. Unless the person is pulled from the water quickly, oxygen deprivation will lead to brain death. That can take as little as six minutes in a warm swimming pool, but in chillier bodies of water, thanks to the ability of the cold to preserve the viability of the brain and other organs, that window can extend up to an hour.

WORLDWIDE, A TINY NUMBER OF VICTIMS HAVE almost drowned in very cold water and later been brought back to life—even after a half hour or longer without air—all thanks to hypothermia's ability to place the heart and brain into suspended animation. Such "miraculous" cases make headlines. Less newsworthy is a more common and tragic flip-side phenomenon: The nearly drowned man who rises from the dead and appears saved, only to die up to three days after successful resuscitation.

This bizarre scenario used to be called "secondary drowning," though researchers have recently rejected the term as misleading. The actual cause of death is pulmonary edema—fluid buildup in the lungs—initiated by lung injury incurred in the water. Even the purest water is damaging to lung tissues. When you factor in the bacteria, vomit, dirt, and pollutants that drowning victims so often inhale along with water, the damage can prove insurmountable.

Early in his career, Dr. Lundgren received a call from a local hospital about a despondent young man who had tried to drown himself. The docs managed to revive him but decided to keep him overnight for observation. At first he seemed to be moving toward full recovery. But over the next several hours, his lungs began filling up with sticky fluid and he slipped into a coma.

"They'd done everything in the book," Dr. Lundgren recalls about heroic attempts to clear his lungs and bring him out of the coma. Nothing worked. "They asked if they could bring him to our hyperbaric chamber as a last attempt to save his life."

Dr. Lundgren quickly agreed. Hyperbaric oxygen treatment, which is used to treat decompression sickness in divers, increases the atmospheric

pressure surrounding a patient's body, effectively forcing extra oxygen out of a patient's lungs and into the bloodstream. Dr. Lundgren hoped this could buy the young man enough time to allow his damaged lungs to heal.

The technique worked, at least initially. "He woke up inside our chamber," Dr. Lundgren recalls, "and was even able to communicate with us a little. But then he developed a pulmonary edema and he slid back into the coma. We inched up the oxygen pressure, and he briefly woke once again. We tried raising it a little more, but this time he didn't respond."

Today, Dr. Lundgren says, a heart-lung bypass machine might have saved him, but that technology was not yet available. The young man drowned after all—not by the seawater into which he'd thrown himself, but by an unstoppable accumulation of fluid produced by his own body.

WHEN A POLICE BOAT FINALLY REACHED PLAYA Tortuga, the pilot plucked one of the would-be rescuers out of the ocean. Then he tried to coax Brian Simmons aboard as well. Simmons declined, determined to keep searching. For a while, the rescue craft pattered in circles in search of the missing student. Finding no signs, the pilot headed back.

Exhausted and distraught, Simmons clung to his boogie board, remembering how many times he'd swum—alone and without any flotation—in these same waters, oblivious to danger. It occurred to him he'd never meet the stranger he'd tried so hard to save, a young man who, like himself, had come here for adventure and a chance to make a difference in the lives of others.

When Simmons realized the search was hopeless, he was nearly a quarter of a mile offshore. The water was now so rough and churned with currents that it took him 40 minutes to swim back in.

It was another several hours before authorities notified Ros Thackurdeen about her son's disappearance. She and her husband, along with her daughter and other son, caught the first flight to Costa Rica and arrived the following day. "We immediately joined the search," Ros says, her voice breaking in grief two years later. Neither this search nor a second attempt that night found any trace of Ravi.

Then, on Tuesday afternoon, 52 hours after Thackurdeen disappeared, a fisherman reported spotting a body on a beach several hours away. His parents made the identification. "This was an ordeal nobody should ever have to go through," Ros says.

FOR PEOPLE WHO LOVE THE WATER, FEW ASPECTS of life rival the pleasures of a summer swim. But it's also true that few can turn lethal so quickly, pitching us into mortal jeopardy that we can't always escape on our own. The solutions seem so obvious: Always swim in guarded waters; wear a life jacket on boats in cold water; learn to recognize and avoid the conditions that have already drowned so many of our brothers. Perhaps most of all, says lifeguard Wise, we need more respect for the water's power—and a little less for our own. "As men," he says, "we need to know our limitations." ■



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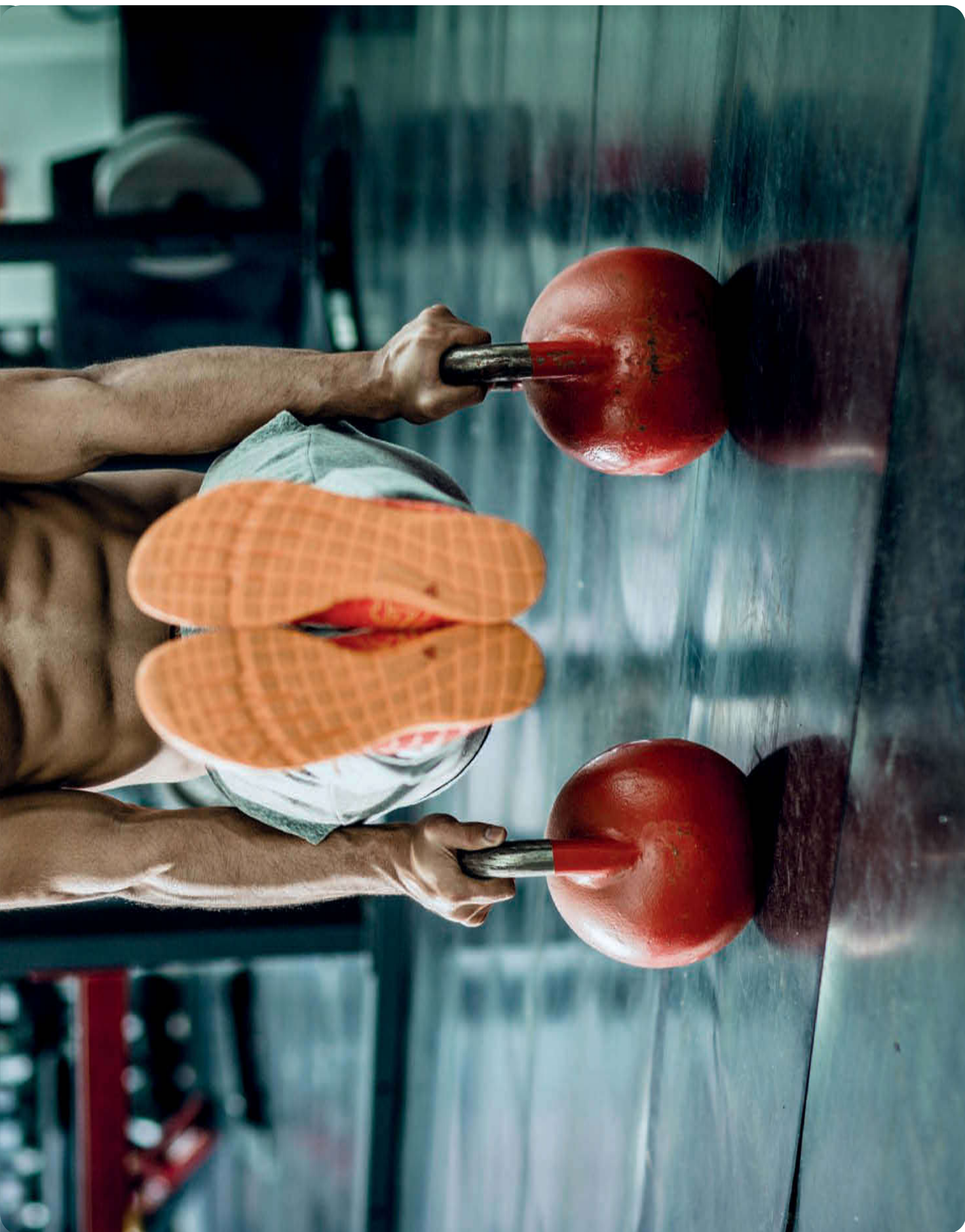


GET A FIT

Men's Health Men's Edge

YOUR PATH TO
AWESOMENESS
STARTS HERE
page 106







BEST KETTLEBELL WORKOUT

The Power Tool Workout

Use the best training tool ever invented to build your best body



1 Kettlebell Swing

Let's start at the beginning. Squat down to pick up the kettlebell, and grip it so your thumb is pointing inwards and backwards, locked over your index finger. Pull the bell underneath you, allowing your knees to bend, but only as much as necessary to generate the required power to swing the bell. Using a hip drive, swing the bell up, where your arm should then bend, with your elbow facing upwards and thumb facing downwards, keeping the kettlebell close to your body. Pause at the top of the swing, then swing back with control back to the start. Breathe out when you're in the bend motion of a swing, clean or snatch, and breath in when you're lifting up – this will help inflate the core, therefore helping assist the lift in an upward motion.

ADVANCED: Hold a kettlebell in each hand, and do a double swing.

2 Kettlebell Press

The press is defined as lifting the kettlebell overhead from the rack position *without* the use of your legs. To start, the lifter should safely swing, clean and rack the kettlebell. In the rack position, power is generated from the hips, which then transfers into the shoulders and triceps, which push the bells upwards until you've got a straight arm in the lockout position (elbows are locked and the bells are located directly above your shoulders). Keep your elbows directly below your hands when pressing for best power transfer. From the lockout position, relax and rise up onto your calves to absorb the downward motion.

ADVANCED: Hold a kettlebell in each hand, and do a double press.



3 Kettlebell Rack Squat

The double bell rack squat is as follows. Bring the kettlebell up into a rack position, keeping your spine straight you squat down, much like a barbell squat, but keeping your elbows tucked in close to the core.

ADVANCED: Hold a kettlebell in each hand, and do a rack squat.

4 Kettlebell Push Press

The push press is defined as pressing the kettlebell overhead from the rack position with the use of the legs. Launch the bell, using an upwards hip drive, with the legs locking out so that the arm locks overhead. You should safely swing, clean and rack the kettlebell before beginning the push press. Then bend your knees slightly, keeping your heels flat on the ground. As you explode upwards, the energy you generate from the legs goes up into your elbows, which helps push the bell upwards. Your arms still do some power work to carry the bells the rest of the way up, but it saves a lot of energy in your arms.

ADVANCED: Hold a kettlebell in each hand, and do a double push press.



5 Kettlebell Clean

Squat down to start, and reach forward to take hold of the kettlebell in a hook grip. Then lean back and pull it through your legs. Then use your hamstrings and back to act like a spring to explosively bring the kettlebell upwards. Keep your knees relaxed until the kettlebell reaches the rack position – then your legs need to be locked out. Your shoulders should be relaxed; if you're too tense you'll use up too much energy when performing this lift. Then turn your wrist slightly inwards on the drop down to the start, and your elbow should pop up to reduce tension. When the bell drops it's important that you allow your palm to rotate internally slightly to allow the bell space to drop.

ADVANCED: Hold a kettlebell in each hand, and do a double clean.

6 Kettlebell Lockout Squat

The lockout squat is as follows: bring one kettlebell up into lockout position above the shoulder. You keep your eyes locked on the kettlebell. With your feet slightly wider than a normal squat stance, you squat down – allowing your free hand to reach for the floor in the middle of your legs. You should pivot slightly under the kettlebell, keeping your weight and stability in your feet (which must stay flat on the floor). Drive back up to the start position using your quads and gluts, and keeping your core tense until you are at a full lockout position again.

ADVANCED: Caution! Only the really experienced lifters can attempt this with a kettlebell in each hand.



7 Kettlebell Jerk

It's defined as lifting the kettlebell overhead from the rack position with the use of your legs, in a double-dip action. It has the same action as the push press, but the force of the launch raises your heels off the ground briefly. Then your hamstrings retract – pulling the body down to lock under the kettlebell. (The arm locks out before the legs do.) The energy generated by your legs travels upwards into the hips, then into the elbows, which launch the elbows upwards, pushing the bells up into a lockout position. You'll feel a "wave" or double-dip motion – once the bell has been launched upwards from the first dip (bend) of the legs, the double-dip is when you slam your heels back down onto the floor, allowing you to sit below the bells you have just launched, locking out your arms. Then you stand up to lock out your legs.

ADVANCED: Do a jerk with a kettlebell in each hand.



"The kettlebell is a unique tool that conditions you mentally through physically taxing situations. It stands out above the rest in coaching your mind to manage your pain threshold."



COACH

Colin Harris
@ColFlux
Cofounder of Flux Fluid Motion (with Sean Temple, WKC Coach (IKFF CKT) and head of FLUX International Education

THE BENEFITS

"Improved strength, work capacity (endurance), enhanced athleticism (flexibility, coordination and balance), weight loss, mental toughness, lean muscle, strengthening of your posterior chain and core."

EQUIPMENT

Kettlebells

DIRECTIONS

This is a ladder workout, where you start with 1 rep of every exercise in the list of the following circuit. Then do 2 reps of each, followed by 3, and all the way up to 10. Then you work your way back down to one. For beginners, do single hand kettlebell work (right hand then swap to left hand), so it's 1 rep on either arm. If you're an advanced athlete, you can attempt this with double kettlebells. And remember, all the above programmes and exercise must be exercised with weights that are manageable.



BEST CALISTHENIC WORKOUT

The No-Weights Workout

Turn your body into a barbell with this potent workout plan that can be done anywhere



1 Push-Ups

"Push-ups are great for building up your chest and triceps, but make sure to engage the glutes and abs for proper activation of the core." You heard the man. Your hands should be directly under your shoulders. While lowering down, squeeze the shoulder blades back and down, keeping your elbows tucked in. Aim for 3 to 5 sets of 20 to 50 reps. Stop once good form is lost.

BEGINNER: Start on your knees. Your heels should be placed near the glutes, with glutes squeezed and abs drawn in. Aim for 2 to 3 sets of 10 to 20 reps. **ADVANCED:** Explosive clap push-ups. Do 3 sets of 10 to 15 reps.

2 Pull-Ups

From a dead hang on a bar with an overhand, shoulder-width grip, start by pulling your shoulders back and down. Activate your lats to help pull your upper chest to the bar. Aim for 3 to 5 sets of 8 to 15 reps. "The pull-up is a great upper body exercise that builds the back and biceps."

BEGINNER: Use a lower bar so that you can use your legs (and ground) for assistance. Aim for 2 to 3 sets of 8 to 15 reps. **ADVANCED:** Explosive pull-ups with a clap. Do 3 sets of 3 to 5 reps.



3 Squats

Start with your toes pointed forwards and feet shoulder-width apart. Start the movement by pushing your hips back and down, as though you're going to sit on a chair. Drop as low as you can without pain (and with good form). "An ideal squat will have the butt nearly touching the ground." Do 3 to 5 sets of 20 to 50 reps.

BEGINNER: You can hold onto an object such as a couch or rope for assistance. Do 3 to 5 sets of 20 reps. **ADVANCED:** Turn this movement into an explosive squat jump. Do 5 sets of 20 reps.



4 Handstand Holds

Start by walking your feet up a wall until you're leaning against it with a straight body. Your hands should end up roughly 8cm from the wall. Aim for holds of 15-30 seconds, and do 3 sets. "Handstands are great for working the shoulders and building body awareness."

BEGINNER: Start to condition the shoulders by pressing into a pike from a push-up position. Aim for 2 to 3 sets of 15 to 25 reps. **ADVANCED:** Incorporate balancing skills by performing the hold freestanding (without leaning on a wall).

5 Lunges

Start with your feet shoulder-width apart and take one big step, dropping your back knee to touch the ground softly (and at 90 degrees). Keep your torso upright. Step forwards to return to your starting position and then swap legs. Do 2 to 3 sets of 10 to 20 reps on each leg. "It's a great strength builder that can be done without any equipment."

6 Skin the Cat

Start at a dead hang. Tuck your knees as you pull your hips up towards your hands. Slowly push your feet and hips through the bar. After reaching parallel with your hips, pull with your shoulders to return to the start. Do 2 sets of 3 to 5 reps. "Great for warming up the upper body, especially your shoulders."



7 Burpee

Begin in a push-up position, then jump your feet forward, towards your hands, and do a jump squat with a clap above your head. Then return back to the floor and repeat. Do 2 to 3 sets of 10 to 20 reps. "Brilliant for building up your conditioning."

8 Bar Muscle-Up

Begin with a dead hang on a pull-up bar, then pull yourself explosively up towards the bar with the intention of bringing your chest up and over the bar. At this point you're ready to do the transition, as you perform a dip to end up with straight arms over the bar. Do 2 sets of 3 to 8 reps. "It's a combination of two of the best upper body exercises: a pull-up and a dip."

BEGINNER: Find a low bar and replicate the motion by jumping on top of the bar. The greater the height of the bar, the more difficult the movement becomes.



9 L-Sit

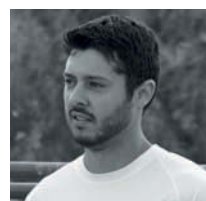
Start on a dip bar with your arms locked out and torso upright, then bring your legs up so that they're locked out straight ahead of you with your toes parallel to your hands. Hold this position. You can perform this with two to three controlled sets with a hold time of 15 to 30 seconds. "This is a movement that builds stability and core strength."



10 Dips

Start on a dip bar with your arms locked out and lower your chest towards your hands, engaging your triceps. Once you reach the bottom of the dip, push back explosively to the start while maintaining tension in your core. Do 2 to 3 sets of 10 to 50 reps. "The more in line your toes are with your head when performing this move, the more you engage your triceps."

"The more control you've got of your body, the more control you'll have over your life. Physical strength and control will lead to mental strength and control."



COACH

Kenneth Gallarzo @progressive_calisthenics Top-ranking athlete and coach, Vice President of the WCO (World Calisthenics Organisation) and creator of Progressive Calisthenics

THE BENEFITS

"Increased strength, endurance, range of motion and increased muscle definition. Calisthenics allows the body to work as a single unit, making the body stronger and more efficient."

EQUIPMENT

Pull-up bar, dip bar

DIRECTIONS

Do this workout three times a week, with one rest day between sessions. The stronger or more experienced athletes can focus on the advanced progressions for more of a calisthenic challenge. Rest as needed between sets.



BEST WEIGHTLIFTING WORKOUT

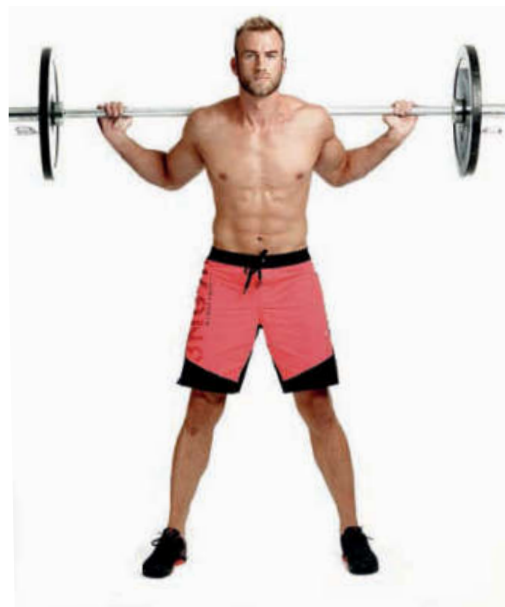
The Muscle Multiplier

Build strength and power quickly with this workout from an award-winning coach. It's tough, but there's no better way to get bigger, stronger or leaner

1 Power Squat

"This is my favourite squat, because more muscles are recruited to execute the lift than any other squat. Plus, you can handle more weight in this position – which, in my opinion, should be everyone's long-term goal." Let's do it. Use a normal squat stance, but focus on positioning the bar lower down on the traps and your feet outside of hip-width apart. The squat starts with the hips pushing back and knees driving out, chest staying up and back kept tight. Make sure you drop below parallel in the squat.

TECHNICAL DIFFICULTY: 6 out of 10



2 Hang Power Snatch

Grip the barbell in a wide snatch-grip position, and lift it up so that you start with the bar positioned over your knees. Then pull the bar upwards while driving your hips forward, and after you have completed the pull, drop under the bar into a squat position around 10cm above parallel as you stop the bar in the overhead squat position. "I use this exercise to increase hip extension and force production via the hips. These are often neglected, which means a lot of guys aren't able to do the move correctly."

TECHNICAL DIFFICULTY: 8 out of 10



3 Deficit Dead Stop Rows

"Need a stronger, bigger back? Row." Simple: stand on a 5-inch plate and pull the bar from the floor up into your stomach, then put the bar back down without losing tension in your core or back. Don't let it bounce, and repeat each rep with as little momentum as possible. "These rows recruit the majority of the back, allowing the erectors to develop correctly. You need to keep a flat back to execute a full row."

TECHNICAL DIFFICULTY: 6 out of 10

4 Snatch-Grip Deadlift

Your grip must be wide enough that the bar is in line with your hips when standing. With this grip, drop your butt as low as possible and deadlift the bar up – but keeping a hollow back and an upright chest. This exercise must not be done with heavy weight unless you can hold the correct position. “This deadlift forces the shoulder blades to stay packed and keeps the lower lumbar flat. It also brings more lats and legs into the deadlift than most other variations.”

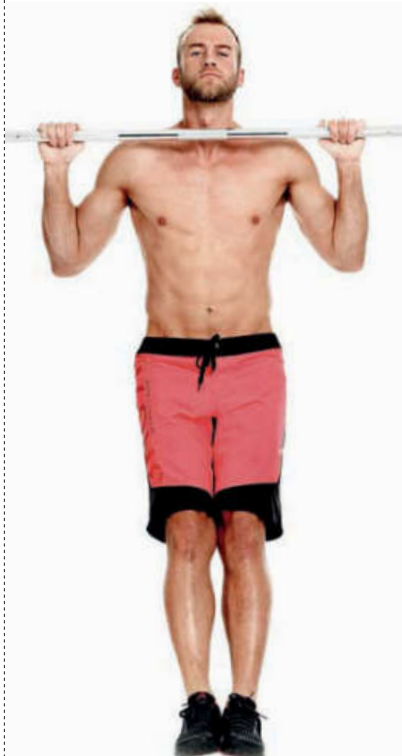
TECHNICAL DIFFICULTY: 5 out of 10



5 Conventional Deadlift

Start with your feet hip-width apart. To lift, drop your hips and pick up the bar at the same time. Squeeze your glutes at the top and lock your shoulders back, but don't lean back at the top. Never lose tension and don't bounce off the floor. “The king of compound movements, this keeps the central nervous system loaded for developing and handling other exercises. It simply must be in all programmes, even if you only do it every second week.”

TECHNICAL DIFFICULTY: 7 out of 10



6 Chest-to-Bar Pull-Up

“If you're strong enough and have healthy shoulders, you should only do one kind of pull-up: this one.” Start in a dead hang position on the pull-up bar with a narrow grip to start. Progress to a wide grip as you get stronger. Pull your chest up to the bar while holding a hollow position.

TECHNICAL DIFFICULTY: 7 out of 10

7 Dumbbell Hammer-Grip Benchpress

These are like traditional dumbbell presses, except your palms face inwards and elbows stay tucked in on the way down. This can help you can improve your pressing abilities without creating shoulder problems, but if you have a coach or trainer watching you, I'd recommend including the traditional benchpress as well.”

TECHNICAL DIFFICULTY: 6 out of 10

8 Behind-the-Neck Push Press

Hold the barbell across your trapezius muscles, grip just outside of shoulder-width. To start, do a small dip by bending your knees, then drive explosively back up while pressing the bar at the same time. “Training overhead is very important, but doing normal strict presses can get a bit stale. The push press allows you to handle more weight, which leads to greater overall strength and size.”

TECHNICAL DIFFICULTY: 6 out of 10

9 Front Box Squat

Find a box that stands at just under the height of your 90-degree squat depth. Holding a barbell across your shoulders, slowly lower yourself down into a seated position on the box – then stand up as fast as possible. “This squat is great hip and glute developer alongside with developing thoracic stability under load, emphasis must be on descending slowly and keeping a upright chest. The goal is to create a great acceleration off the box after at least a 3-second pause.”

TECHNICAL DIFFICULTY: 6 out of 10



10 Shrug

With your grip shoulder-width apart, shrug the bar upwards while aiming to touch your ears with your shoulders. Don't bend your arms or roll your shoulders. Each shrug must be done as fast as possible with a squeeze at the top (with absolutely no arm flexion). “Your traps need your attention – the stronger they become, the better your weightlifting, deadlift and overhead work will be.”

TECHNICAL DIFFICULTY: 5 out of 10

“The risk of failure and injury is greater in heavy lifting, so it keeps you honest. Iron is a teacher; it shows us part – or all – of our purpose, our vision. It says we're created to do amazing things, not just pay the bills.”



COACH

Joshua Capazorio
@JoshuaCapazorio
Strength and conditioning coach at The Yard Athletic and head coach of Yard Athletic Weightlifting Club. One of the three Best Local Coaches in the MH 2014 Fitness Awards

THE BENEFITS

“When you become stronger, your body shows it: your legs gain mass, you develop erectors and traps (the true signs of strength) and your forearms look as if you could crush a jam jar instead of just opening it. And the psychological benefits always outweigh the physical benefits.”

EQUIPMENT

Barbell, squat rack, pull-up bar, dumbbells, bench, boxes

DIRECTIONS

Follow this three-day programme (with rest days inbetween). With each session there is an abs, biceps or triceps component where you choose your own exercises.

Day 1

Power Squat: 8 sets of 6 reps
Hang Power Snatch: 6 sets 3 reps
Chest-to-Bar Pull-Ups: 5 sets of 5 reps
Biceps: your choice
Abs: your choice

Day 2

Snatch-Grip Deadlift: 6 sets of 6 reps
Behind-the-Neck Push Press: 5 sets of 8 reps
Deficit Dead Stop Rows: 5 sets 10 reps
Triceps/abs: your choice

Day 3

Front Box Squat: 5 sets of 5 reps
Conventional Deadlift: 4 sets of 6 reps
Hammer Grip Dumbbell Press: 5 sets of 8 reps
Shrugs: 4 sets of 20 reps
Abs: your choice



BEST CORE WORKOUT

The Abs Accelerator

Incinerate fat and pack on muscle you'll be proud to show off – in just 30 minutes a day

- 1 Overhead Alternating Reverse Lunge With Side Bend**
Hold a pair of dumbbells over your shoulders, your feet shoulder-width apart. Step back with your right leg into a lunge, lean left, and return to the starting position. Do all your reps on your right leg and then repeat with your left leg, leaning right. **REPS:** 8 per leg



- 2 Feet-Elevated Dumbbell Alternating Chest Press**
Lie on a bench holding a pair of dumbbells at the sides of your chest, palms forward. Raise your legs so your hips and your knees are both bent at 90 degrees. Press the weight in your right hand straight up above your chest; then lower it. Repeat with the weight in your left hand. Continue alternating. **REPS:** 8 per arm



3

Medicine Ball Transfer

Lie face-up on the floor with your legs straight and hips bent at 90 degrees. Hold a medicine ball above the top of your head. Keeping your arms straight, raise the ball and place it between your ankles. Use your feet to lower it to the floor; then raise it back up and grab it with your hands. Return to the starting position and repeat. **REPS:** 12



5

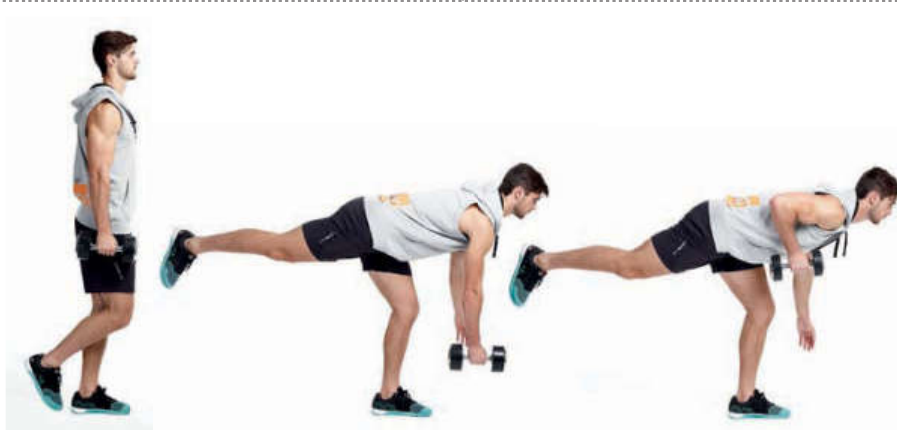
Mixed-Grip Feet-Elevated Inverted Row

Set a bar to waist-height and position yourself below it, hanging at arm's length with one hand facing forward and the other facing back. Put your feet on a physio ball. Pull your chest to the bar. Lower and repeat. Switch hand positions after 4 reps. **REPS:** 8

6

Side-to-Side Glider Plank

Assume a plank position with your elbows bent 90 degrees and feet shoulder-width apart on hand towels – or paper plates; anything that slides. Move your left foot in an arc away from your body, then pass it beneath your body, to the right. Do all your reps; then repeat with your right leg. **REPS:** 10 per leg



7

Single-leg Straight-leg Deadlift and Row

Stand with a dumbbell in your left hand and your weight shifted onto your right leg (lift your left foot slightly off the floor behind you). This is the starting position. Push your hips back and hinge forward, raising your left leg. Row the weight to your side. Return to the start. Do all your reps, switch sides and repeat. **REPS:** 8 per side



4

Offset Step-up Shoulder Press

Hold a dumbbell in your left hand in front of your left shoulder, palm in. Place your right foot on a tall box or bench. Simultaneously step up with right leg, raise your left knee, and press the dumbbell directly above your shoulder. Return to the starting position. Do all your reps, switch sides, and repeat. **REPS:** 8 per leg



8

Weighted Half Wiper

Lie on your back holding a medicine ball between your feet, keeping your legs perpendicular to the floor. Hold a dumbbell in your right hand directly above your chest. Lower your legs and right arm to the floor in opposite directions. Reverse the move to the starting position. Complete all your reps, switch arms and repeat in the other directions. **REPS:** 10 per side

“Exhale completely. Doing so at the start of a move brings your ribs down and fully activates your abs,”
– Doug Kechijian, Doctor of Physical Therapy at Peak Performance in New York



COACH

Dan Ownes
Certified strength and conditioning coach and elite trainer at the world-renowned Parisi Speed School (parisischool.com)

THE BENEFITS

Boosting metabolism, packing on lean mass and sculpting every muscle in your core

EQUIPMENT

Dumbbells, bench, medicine ball, box, power rack with bar, physio ball

DIRECTIONS

For the next month, replace one workout in your training plan in a week with this 30 minute routine. Perform each exercise in the order shown without resting between moves. Once you've finished all eight, rest for 60 seconds. That's one circuit. Do three.

Your Recall Notice

How you fare when left to your own mnemonic devices.

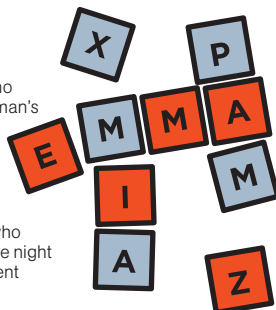
THE
AVERAGE
GUY

26 Percentage of men who say the birth of their child is their happiest memory



43 Percentage of guys who have blanked on a woman's name mid-date

34 Percentage of those who managed to survive the night without a Mulva moment



4 Age of the average guy at his earliest memory



50s Decade when he starts to notice memory loss

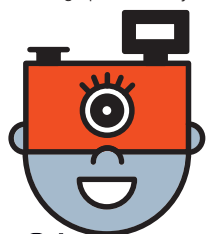
2IN5 Number of men who regularly forget one of their login passwords



18 Percentage who recall that getting hitched was

27 Percentage who'd love a chance to erase the details of a past relationship

22 Percentage of guys who swear they have a photographic memory



<0.1 Percentage of people who actually have something like a Nikon in their noggin



Percentage of men who've spaced out on their mate's birthday

42 Percentage of stereotype-defying guys who have never forgotten their anniversary

34 Percentage of men whose absent-mindedness cost them a cellphone



60 Percentage who still have one of those can't-forget-it phones (a.k.a. landlines) at home



HALF

Proportion of men who wish their doctor could prescribe them a memory steroid

32

Percentage who think popping a fish oil supplement will boost their brainpower

75 Percentage who always remember because they never bother changing their passwords

49 Percentage of men who think (and hope) they'll see a cure for Alzheimer's in their lifetime



62 Percentage who'd rather lose their brawn than their brain

41 Percentage of men who can rewind to their childhood via VHS tapes



22 Percentage who predict they'll one day want to forget their youthful Facebook posts

27 Percentage who are confident the social network will be on life support long before they are



HIT "DELETE" ON A BAD TIME

You can sidestep an unhappy memory much the same way you avoid a collision, says University of Cambridge neuroscientist Michael Anderson, Ph.D. When something triggers the memory, "swerve" to a more positive recollection, he says. So if a photo reminds you of a bad breakup, recall a happier time with your ex. Or just hit the brakes: Focus intently on the photo and tell yourself not to go to that painful place. Employing either strategy once or twice won't have much effect, but do it consistently when faced with the trigger and you'll retrain your brain.

GET YOUR HEAD IN THE GAME

Playing certain types of games may reduce your risk of developing Alzheimer's later in life, suggests a new study from Saint Louis University. According to researcher George Grossberg, M.D., exercising your brain with fresh challenges causes it to develop new circuits. Those additional connections may make your brain more resistant to degenerative diseases. So look for a word game, math challenge, or brain-training app that you haven't played before. Dr. Grossberg likes Wordmania, Conundra, and Brain Fit. Spend 15 to 30 minutes a day on it to stay sharp.

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YOUR
CALL

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